BUSINESS

THE COMPLETE JOURNAL OF MANAGEMENT & MARKETING

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YOUR FACTORY AND THE NEW ACT
SPECIAL EXPLANATION BY H.M. CHIEF INSPECTOR OF FACTORIES

ZERO TO BIG BUSINESS IN 8 YEARS
BY MANAGING DIRECTOR, JIFFY AUTOMATIC CLOTHES WASHER CO., LTD.

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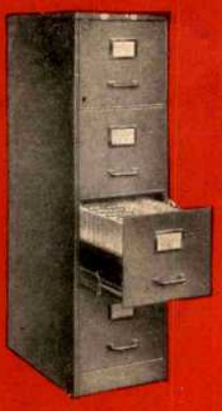

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ON KEEPING TOUCH

THE MERCHANT'S PROBLEM DOES NOT END WITH THE SALE . . . . . By THOMAS DIXON

IT used to be said that once a salesman had made a sale he had no further interest in his customer; he got his money and passed on. He did not see why he should waste time and money looking after a man he had already sold. The buyer had the goods: the seller had the money; and that ended the matter.

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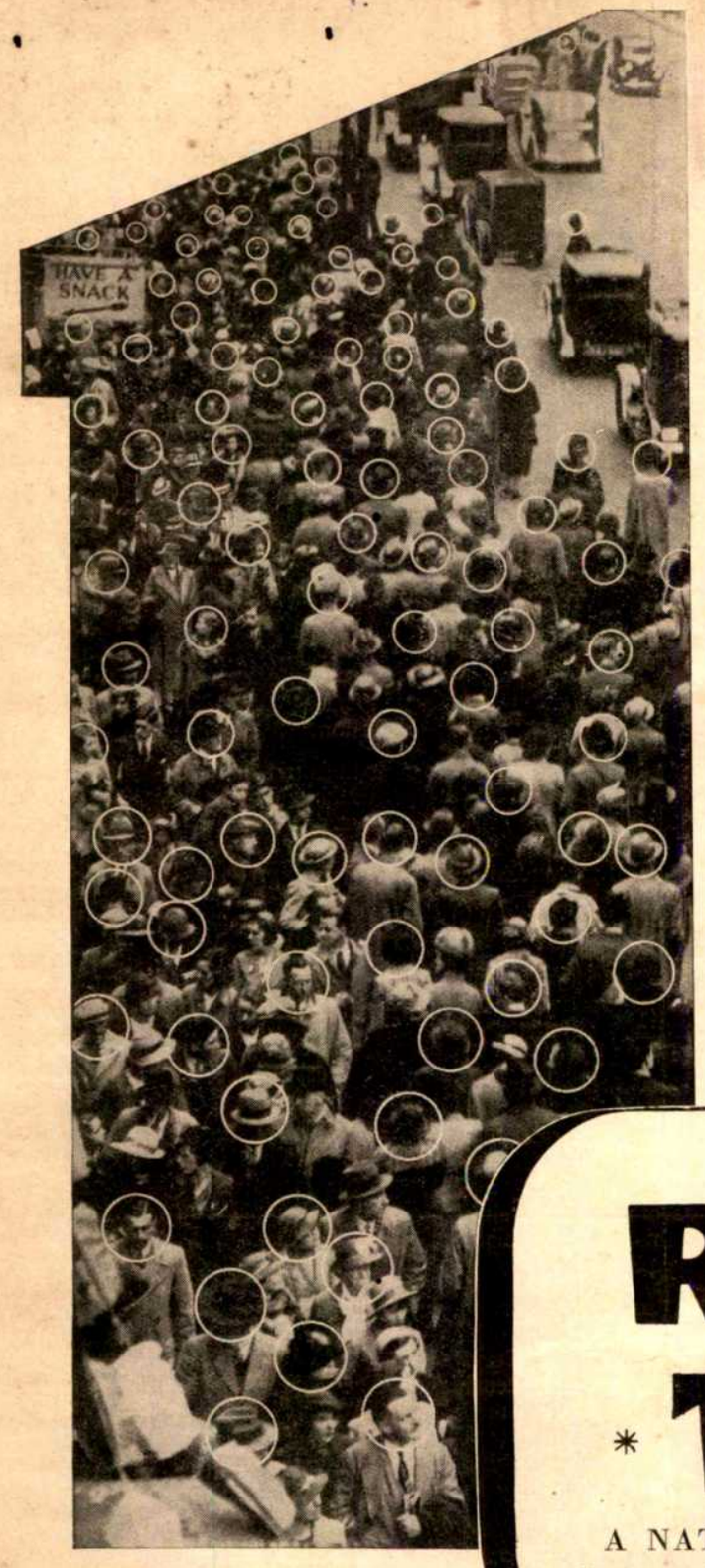

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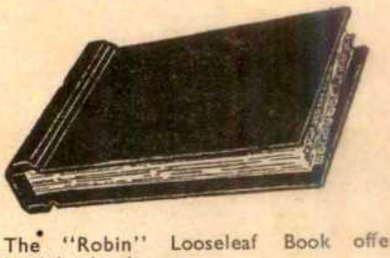

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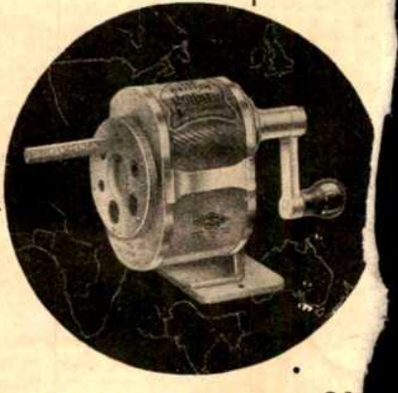

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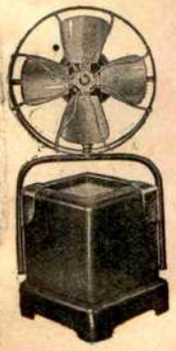

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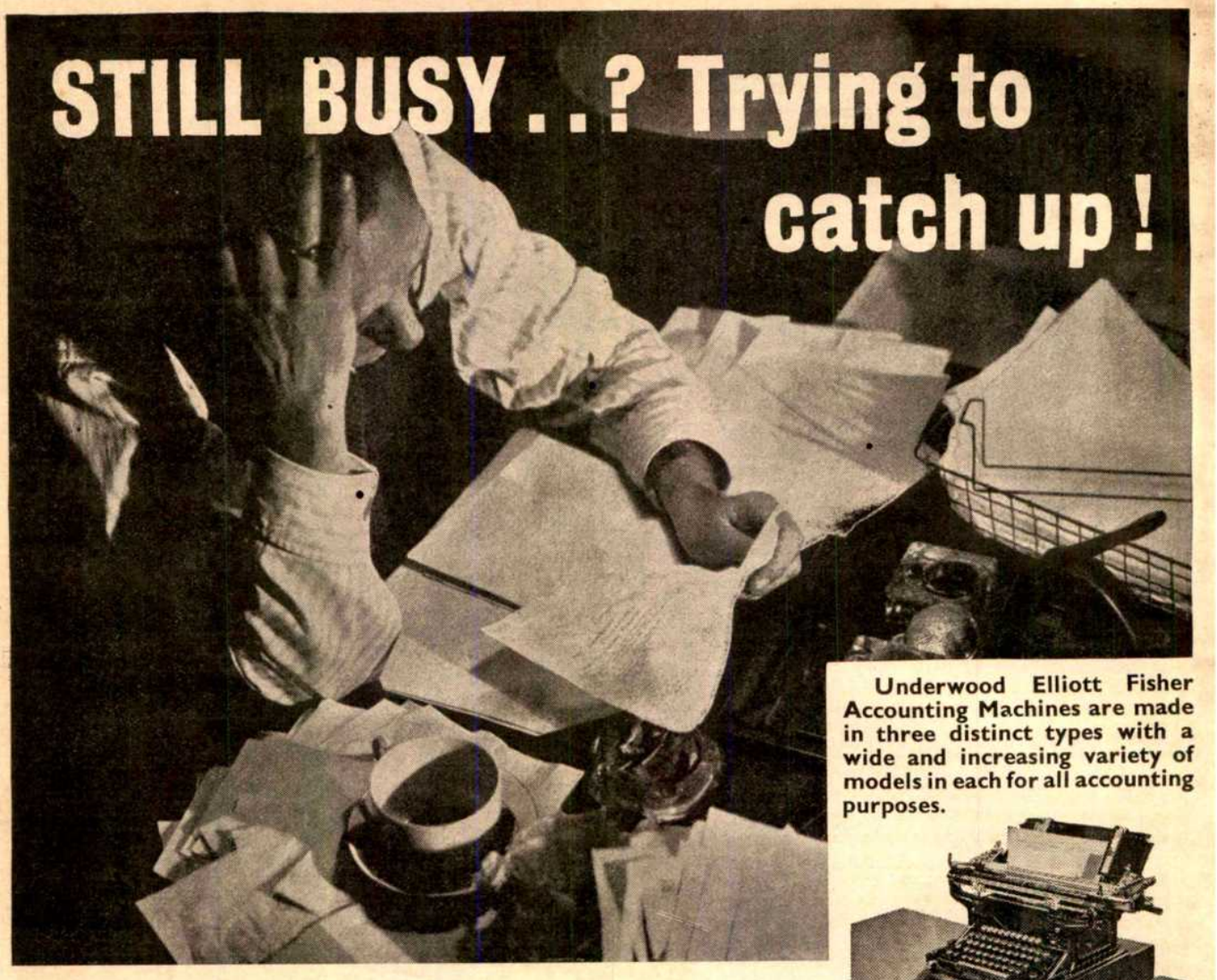

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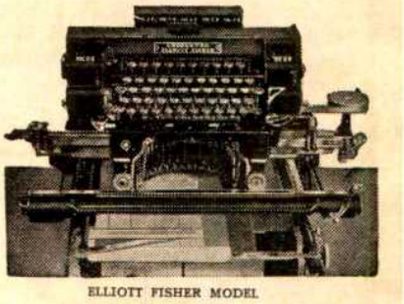

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Courage to Scrap and Change Marketing Policies Put This Firm On Top

By F. T. POULTON, from an Interview with

TEMPEST SLINGER, Managing Director, Jiffy Automatic Clothes Washer Co., Ltd., Accrington Lancs.

Tempest Slinger, lawyer by profession, became co-director with inventor Knowles in his early marketing activities in 1933. Appointed managing director in 1937

HERE was a new type of product : universal in application : but it was almost unknown among those sound but highly conservative 'prospects'—the housewives of Britain. The reason for Jiffy's success lay in the company's quick perception of market reactions and its courage in completely switching sales policies to fit.

FIRST the market was among the poorer classes where a machine was a necessity to banish the drudgery of "wash day". Families that could afford to use laundries were not prospects. To-day, with the virtues of the automatic washing machine better known, the "class" market is rapidly growing. Washing machines are displacing laundries as their action ensures fabrics a longer life.

BARELY eight years ago the now "largest manufactory of vacuum clothes washers in the world" began as a one-man effort, practically without capital and with its objective a market that was, to put it mildly, unacquainted with this type of product.

William Knowles was the pioneer who invented the appliance that became known as the "Jiffy" washer. In 1930, when he perfected his invention, he was associated with a well-known Accrington firm that made soda fountains.

Knowles got his idea for a washing machine from two sources: (1) the latest types of wringing machines that were being produced at the time, and (2) the simple gas clothes boilers which were just then becoming widely popular. His "washing machine" was, in the main, a combination of these two appliances.

Although he was not then engaged in either the wringer or the clothes boiler business, it was natural that Knowles should notice the development of these types of equipment because Accrington is the home of the original mangle business. In the town were three world-famous concerns, pioneers of mangles and their modern developments, the handy wringer.

First Attempt at Marketing: a Single Shop

Knowles foresaw an enormous national—if not world-wide—market for a machine that was an effective advance on these types. This new machine therefore combined the qualities of both, *plus* an entirely new feature not then possessed by any other design of washing machine. I mean the principle of the vacuum, by which dirt is more quickly and more effectively removed from clothes. He called his appliance the "Jiffy" Automatic Clothes Washing Machine.

Knowles decided that he would try to raise an interest in this machine by taking an empty shop on the coast of Lancashire, at Southport, and there to carry on an actual demonstration in the shop window. By this means it was his idea to encourage passers-by to go into the shop to obtain more information about this new type of washing machine.

No factory was set up to manufacture the Jiffy. Knowles left the soda fountain business and took a small warehouse in Accrington, where, with two or three men, he built machines from parts bought from outside suppliers.

This process was expensive, but there was not the cash available for the installation of production machinery—even if it had been decided to risk such an investment at that stage when the reaction of the market to an almost unknown product was untried.

From Accrington Knowles and one or two assistants whom he invited to

co-operate with him travelled as salesmen throughout Lancashire and Yorkshire, selling only to retail dealers. The method of selling was to give demonstrations in the retailers' shops.

By March, 1933, Knowles had created quite a little business in assembling machines and selling them through trade channels, and he thought it time now to consolidate his efforts. He therefore formed his first small company: Jiffy Automatic Clothes Washer Co., Ltd., with himself, his mother (Mrs. M. A. Knowles), and Mr. T. Slinger as directors.

W. GERALD ROCHE, *General Sales Manager since April 1937. Great believer in visual and graphical records. Devised the centralized visual system of sales team personnel and records control illustrated below*

The first simple experiment in marketing, through trade channels only, was successful up to a point. It revealed that, while it was right in one main principle, it fell far short in another. It showed that the principle of *demonstration* was rightly conceived, but that beyond this point the method was not suitable. At this early stage, with the average housewife by no means educated up to being washer-minded, the policy of leaving the machines in the dealers' shops and expecting them to be moved from there was wrong.

Whereas, in each locality one or two machines might be bought by housewives who had actually seen the demonstrations given by Mr. Knowles and his assistants in the dealers' shops, sales thereafter would be practically non-existent. Dealers themselves had not the convenience, the time, or the knowledge to continue the demonstrations; and no average housewife was likely to come along spontaneously to buy such a relatively expensive and unfamiliar thing as a washing machine.

Change-over to Direct Selling Was Essential

Knowles therefore decided that if in this way he could not bring a sufficiently great number of housewives into contact with his dealer-limited demonstrations, he would take his demonstrations direct to the housewives in their own homes.

This was a highly important decision. It meant that he would abandon the method of distribution through dealers and supersede it by the policy of demonstrating and selling direct to the user.

Knowles fully realized that by this decision he was undertaking the most difficult and costly of all methods of selling. In view of the almost complete lack of "product-education" in his prospective market, however, he was convinced that his projected new plan was fundamentally sound. He considered, rightly, that a mechanical product such as a washing machine could only be sold effectively by actual demonstration in front of the prospective customer. And, what is more, Knowles argued, the demonstration, to be fully effective and convincing, should be conducted, not in a dealer's shop, but actually in the prospect's own home and on her own particular "wash".

It was important that, to introduce a machine which was so revolutionary, its most practical bearing upon the prospect's individual problems should be shown. In respect of a new type of machine for which high claims were made, a woman would be much more likely to be convinced if she saw its action upon garments belonging to her own family than if she saw its application in some dealer's shop and upon things that were quite unfamiliar to her.

In 1934, therefore, another small company was formed with a capital of £100, a loan of somewhere about £1,000 was raised on debentures, and Modern Aids, Ltd., came into being as a purely selling organization for the Jiffy Automatic Clothes Washer Co., Ltd. Modern Aids, Ltd., was to sell direct to the public while the parent company continued to sell to the trade as before, i.e., with shop demonstrations and to trade customers who were stockists.

The direct-to-public selling organization was based on small demonstration teams, each team to have a car for the transport of the machine, a salesman and a woman demonstrator. In the first instance, as a test of the plan, this activity was confined to Lancashire territory only. Six teams were launched as a beginning.

Even though the selling policy was thus fundamentally changed, no attempt was yet made to begin manufacturing any part of the product. Components were still bought from outside suppliers and assembled.

Costs Saved by Manufacturing Own Parts

Later, however, in July, 1934, it was considered that the company could reduce costs and at the same time secure a better control over supplies if it manufactured its own components. Contracts with outside suppliers were therefore allowed to lapse, and a small plant was laid down in premises in Accrington for the manufacture of all parts except the wringer, which was still to be supplied by a firm specializing in these products.

Very soon after the Lancashire teams got to work results showed that the direct-to-user policy was far more effective than the original method. Sales, in fact, increased to such an extent that wider territories were taken in. In succeeding months small additional companies were therefore formed in the following centres in this order: Leeds, Scotland, Staffordshire, London, and Leicester. The name of each company was retained as Modern Aids, Ltd., with the addition of the name of the centre in each case.

The idea of creating separate companies was to enable small quantities of extra capital to be secured locally so that each area could be more or less self-supporting. The parent company, though, retained a fifty per cent share in each division.

The method of running these companies was that each should purchase

Sales Control at a Glance

Left: *This corner of the statistical room shows the type of visual control designed by Mr. Roche. The light coloured pointers, adjusted against a scale, show the position of every sales team at every branch in relation to their sales quotas. Adjustments are made daily. In the lower compartments (shown open) are kept the salesmen's and lady demonstrators' dossiers and photographs so that complete information about every individual, including his or her selling cost, is kept close to the moving records. A master board, showing branch and company totals in relation to quotas, is maintained in Mr. Roche's own office*

Sales Policy to-day is a CO-ORDINATION of direct selling AND dealer distribution

machines from the Jiffy Automatic Clothes Washer Co., Ltd., which acted simply as manufacturer. As the machines were sold and book debts created, each company stood on its own feet, carried its own book debts, paid all the expenses of selling and commission to salesmen, and generally were managed as a separate entity.

The washing machines were sold to each of the selling companies at a fixed price which gave them sufficient margin to operate their selling organization on a profitable basis.

Each area organization worked in the way that the experimental Lancashire venture proved to be successful, i.e., with demonstration teams operated by the salesmen having their own cars in which they transported the machines and their lady demonstrators from one demonstration to another.

As sales expanded teams were added in each territory until, by July, 1935, a total of 100 were on the road.

At this juncture the management saw that the small, separately controlled organizations were working to capacity of both cash resources and man-power. The market was opening rapidly, but with all the expenses inseparable from selling in this way, extra motor transport with their sales and demonstration teams could not be added to meet the demand.

In July, 1935, therefore, Jiffy Holdings, Ltd., was formed with a privately subscribed capital of £50,000 to enable sales to be developed on a really nation-wide scale. At the same time, it was considered that, instead of having each separate area organization under its own control, economies, standardization, and better administration could be secured by centralizing the control of all sales activities at headquarters in Accrington.

For this purpose the Holdings Company acquired the whole of the interest in three or four of the Modern Aids Companies and made arrangements with the London company for a new company to be formed and to be known as Jiffy Southern, Ltd.

All Policy Plans Tested Before Big-Scale Adoption

At this stage it was also decided that the method of transport (which had hitherto been provided by motor cars owned by the various team salesmen) should be changed. The parent company therefore contracted with Jowett Cars, Ltd., to supply 7-h.p. vans capable of carrying three or four machines and having special seats to accommodate one or two lady demonstrators.

It is interesting to note how this speciality concern, selling a relatively expensive and certainly a new type of product, gradually built itself up without the big initial capital which it is usually the practice of this type of organization to acquire.

Every activity was carefully tested out before being adopted on a bigger scale. And it is also significant to observe that all this pioneer work was done without the aid of advertising campaigns. Not even publicity literature (descriptive booklets, pamphlets, etc.) was used, since it was argued that if a prospect was in possession of literature, she had an excellent excuse to refuse the salesman permission to put his proposition and to give his demonstration. It is easy to give the answer: "I have your literature; when I've examined it and made up my mind, I'll get in touch with you."

Every speciality sales manager knows what that kind of an answer by the prospect means.

With the formation of Jiffy Holdings, Ltd., the concern became centralized and formed the basis of the still more progressive organization which represents its constitution to-day.

Under the new regime the branches were reconstructed to consist of a branch manager, with clerical staff, a trade representative, a shop demonstrator, and an average of ten demonstration and sales teams. Each team was made up of one of the new Jowett vans, one salesman with either one or two, and in some cases three, women demonstrators.

Each Branch Manager Selects His Own Staff

In each case the branch manager was given the responsibility of selecting, appointing, and training his own teams.

In the initial stages of development team personnel was selected and trained by a personnel manager assisted by a manageress. Experience proved, however, that this was not the ideal plan, so later the selection of selling and demonstration staff was transferred to the man on the spot—the local branch manager—who is in the best position to understand the mentality of the average housewife in his part of the country.

We all know how widely the habits, characteristics, and outlook of folk

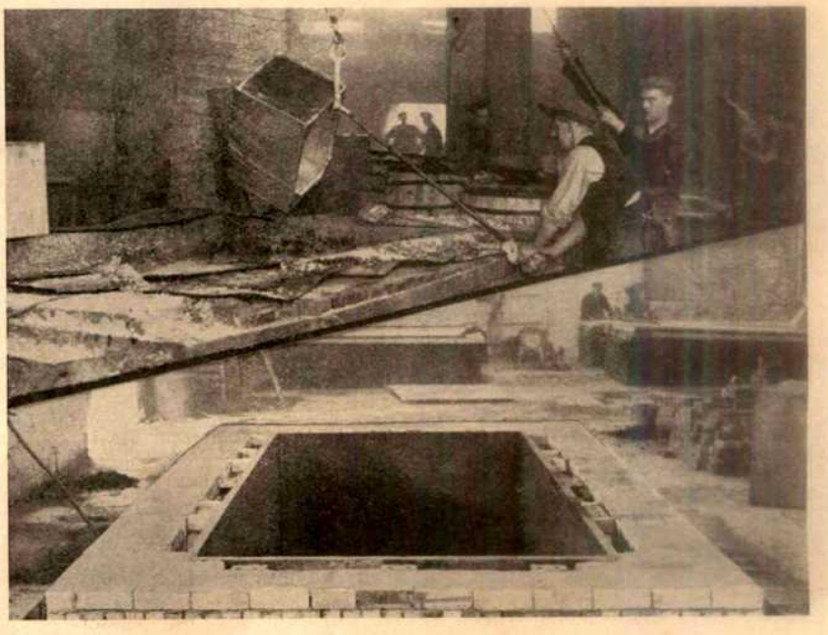
Profitable Extra Business has been Developed out of This Process

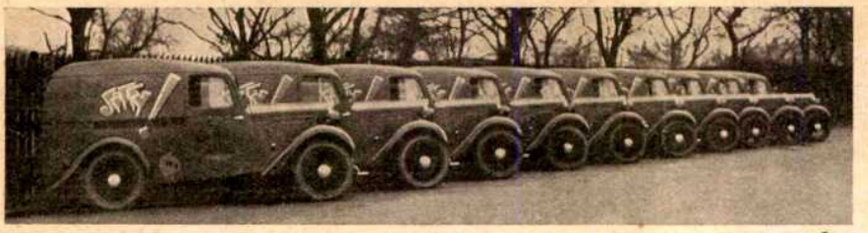
IN July, 1934, Jiffy abandoned the policy of assembling parts made by outside suppliers. Without the aid of extra capital they put down a small plant in a disused warehouse and started to manufacture for themselves all components except the wringer, which is still specially made to their design by a famous wringer manufacturer.

The plant they installed included galvanizing baths with acid tanks, which, by their nature, demand continuous operation.

The company had not sufficient output to warrant working three 8-hour shifts on their galvanizing baths, so, to fill out, they sought from various other engineering firms orders for galvanizing work that would keep their plant working.

So successful has this idea proved that the company have developed this "side-line" into a highly profitable business on its own account. Their galvanizing plant is, in fact, the only one within a 20-mile radius of Accrington. Owing to increased orders (including Government contracts) additional new baths with acid tanks are being installed. Naturally, this policy of taking profitable orders from outside has substantially reduced Jiffy's own manufacturing costs. Illustrations show one of the original and one of the new baths.





One of the important developments of the company was to abandon the use of salesman-owned cars for the transport of machines and sales teams and to provide standardized vehicles throughout. Jowett vans were selected and specially fitted to accommodate machines and personnel. Each branch of the company has its fleet; the one shown belongs to the Aberdeen branch. The company's fleet totals 170 vans and 30 saloon cars for branch managers and other executives

differ, even as between one county and another. A local man is consequently better able to select and train personnel to fit local needs, subject, of course, to strict adherence to the fundamental policy of the company.

After personal schooling by the branch manager, newcomers are attached to star teams to gain practical experience under the guidance and control of the team manager. This method of individual tuition has proved much superior to the former method of mass schooling, and is now the established practice throughout the organization.

By the beginning of August, 1935, the sales staff numbered 360, and campaigning went ahead with the control centred in the head office at Accrington.

From this time until the end of 1936 a straight policy of direct-to-user sales was followed. No dealers were brought into the chain of distribution at all.

Readers of BUSINESS are well acquainted with methods of direct-to-user demonstration and selling, so there is no need to describe what happened during the period in which the reconstituted company operated along these lines from, roughly, July, 1935, until the end of 1936. Sales expanded steadily to about ten times the volume of two years previously.

Why Re-inclusion of Dealers was Decided Upon

At the end of 1936, however, the management made another vitally important change in policy. After this intensive period of direct-to-user selling it determined, after very close examination of the market, that a higher ratio of results could be secured by reverting to a policy of distribution through dealers, to be additional to the direct activities of the company's own selling forces.

The main reason for this arose from the steadily increasing tendency of housewives towards "washer-mindedness", and the growing activity of competitors who were distributing through the trade.

The Jiffy organization found that while their personal demonstrations in the home were becoming increasingly welcome, their ratio of sales was not increasing to a corresponding extent. And one of the reasons was this: housewives, convinced by the demonstration, became "sold" on the *principle* of the washing machine. But those who did not there and then contract to buy "Jiffy" from the salesmen of the demonstration team would later go to their dealer and buy "a" washing machine. Such customers might even—in fact, invariably did—ask for a Jiffy washer, but because the dealer did not handle those machines, but did handle competitive makes, the customer, being satisfied with the principle of washing machines, would be quite content to accept an alternative make offered by the dealer from stock.

Part of Selling Effort was Being Lost

Frankly, the position was that, to an increasing extent, the Jiffy organization was expanding its pioneering, selling more and more housewives on the *idea* of the washing machine, only to have a proportion of these "converts" persuaded to buy competitive makes of machines from their dealer.

In October, 1936, therefore, the decision was made to distribute, additionally, through the trade, and for this purpose seven trade representatives were put on the road to introduce the idea to dealers, and in February, 1937, advertising was launched in the trade papers, followed by a campaign to users in the national Press.

As can be imagined, it was not an easy job to persuade dealers to take, from a firm that had hitherto avoided them, a product that was in competition to makes which they had already been handling for some time. The attitude of the dealers at first was obviously not altogether to the advantage of Jiffy's new trade representatives. But this was where the merits of the product itself had a powerful influence in inducing a favourable reaction.

The Jiffy was still the only machine embodying the vacuum action, and this factor, as the demonstrations clearly showed, made for outstanding performance and effectiveness.

Gradually, therefore, the dealers accepted the Jiffy, on the basis that they would become stockists while the company's teams continued their full-strength house-to-house demonstrations.

The reflection of this policy on sales was almost immediate. The returned ratio of sales to demonstrations clearly showed that a firmer grip on the market had been secured.

In October, 1937, another step was made to consolidate this position, and the company inaugurated their "Co-ordination" plan for dealers.

This plan was fully described in a special booklet entitled *Co-ordination* and issued to the trade. It set out that the company would create a chain of "approved" dealers throughout the country.

The benefit of this to the company was that their products would be in the hands of only those dealers who were selected as progressive and sufficiently well equipped to exploit sales to the best advantage. The plan automatically reduced costs by omitting the expenses of unenterprising and unprofitable retail outlets.

By agreement every approved dealer undertook to place an initial minimum order for two complete Jiffy units for stock. By agreement, also, dealers were bound to maintain standard prices.

The company, on its part, undertook that its mobile, house-to-house selling teams would operate intensively in each approved dealer's area for a period of not less than two weeks in any one year.

Thus, though the sales teams operate all the year round in this "assisted sales service" to the dealers in general, each dealer is virtually guaranteed a definite period of demonstrations concentrated within his particular local area.

Even under this dealer distribution scheme, however, each Jiffy salesman still tries as hard as under the former scheme to make actual sales himself, on the prospect's premises. But every sale so made is now credited to the approved dealer who has supplied the "lead".

This arrangement, of course, is a considerable incentive to the dealer to show a lively interest in the company's products when those prospects who have not made a purchase from the demonstrating salesman come later to the shop to talk the matter over or place an order.

Another arrangement which many dealers welcome is the offer of the company to stage demonstrations inside the shop. The advantage to the dealer of such a display, apart from the additional sales of the product it stimulates, is the interest it has for all customers entering the shop, and the reputation it gives his business for progressiveness.

The company, of course, provides the skilled lady demonstrators in every case and meets all expenses, but it makes the reasonable proviso that the dealer shall pay the demonstrator a commission of 5 per cent on the list prices of all goods she sells. This percentage is a direct payment to the demonstrator personally.

All Sales Personnel Paid a Fair Living Salary

It should be mentioned here that it is an invariable point of the company's policy to pay to every member of the sales staff a fair living salary, apart from commission on sales effected, so that there is no temptation among them to use high-pressure methods to force sales to provide the means of subsistence. This ensures "clean" sales and is a policy that accounts to no little extent for the success of the Jiffy selling methods.

Under the co-ordination scheme the company also provides the dealer with full facilities for selling Jiffy washers on the H.P. or the D.P. system. These systems are open to the dealer no matter whether sales are made for him by the company's travelling demonstration teams or whether he makes them over his own counter.

(*Continued on page* 44)

The Month's NEWS in Management Trends

By The Editors

Labour Scarcity Turns Publicity Manager into Talent Scout

SHORTAGE of skilled labour is still a serious difficulty with many engineering firms. Last month we met the publicity manager of a famous Midland concern who had perforce turned himself into a talent scout—as a temporary, but for the moment an almost, full-time job.

Pressure of work in the factories and long-period contracts in hand rendered his normal services a bit embarrassing, so he now writes high-pressure copy for a big campaign of "Employees wanted" ads. in papers all over the country; he also arranges for applicants to be interviewed by the firm's technical staff.

In this firm the area salesmen, covering the whole of Britain, have also been co-opted into doing all they possibly can to find hands whose names and addresses can be passed on to the publicity-cum-personnel manager for further action.

This plan, we understand, is bringing quite fair results.

●

Faults Too Elementary, Almost, To Mention

AS we make our tours of businesses and factories we are almost ashamed to mention some of the snags and faults that we see existing and which pile up unnecessary costs. So obvious and fundamental are some of these things that to talk about them makes us feel rather that we are drawing attention to something too elementary for readers in 1938.

Yet it is not at all uncommon to see businesses forcing their way along, in the face of to-day's competition, putting up with conditions that not even a modern student would allow.

●

Decrepit Unit Holds Up Whole Department

IN one factory we saw a whole department of 50 operatives held up while half a dozen men busied themselves patching a small steam-heating unit in a production line. We quietly asked—not the management, but one of the hands—how often this sort of hitch occurred. We asked this question because, from the pattern of the unit, its age was pretty obvious.

The man's answer was: "Oh, she always busts out about twice a week." "What do you mean by *always*?" we asked. "Oh," he said, "for the last couple of years anyway!"

You would not find a more decrepit and patched steam unit in any old tramp steamer. The bulk of plant in this works was good, yet the management allowed the whole organization to be thrown out of gear, regularly, for the want of—what? We confess we do not know, though we do know it is not lack of money in the bank.

We hope something will come of our suggestion to a director about scrapping the old "boiler" in favour of a simple, thermostatically controlled electric element.

●

It's Absolutely Vital, This Question

IT is not impossible, even for the smallest firm, to adopt a similar policy to that followed by the great motor-car concerns. They have somebody whose job it is to look at every piece of plant and probe every method in the factory, seeking to determine "What improvement can be made here?"

In the motor-car plants, of course, this critical question is put every day; but the small business man could do it every week, or month, or quarter.

A vast number do not do it every year, or even every *ten* years!

●

A £50,000 Drag

HERE'S a good one, too. In November last we were up on the North-east Coast, at a large works where they produced heavy power plant.

We found that in the stores—a huge place—they had the old "full bin" system of stores control. So long as the bins are kept full everything is considered O.K. Directly the contents of one falls a bit somebody comes off a job—comes off a job, and at a time of full-pressure work!—to fill it.

One of our technical consultants was with us, and we got him to estimate the value of these stores *in excess* of actual current needs.

The excess worked out at between £47,000 and £50,000!

Fifty thousand pounds tied up in surplus bronze, copper, steel, etc., to say nothing of cost of storage bins, space, handling charges, insurance, and the enormous risk of obsolescence.

With this firm, also, we left a hint: an outline of a modern stock-control method that automatically takes care of predetermined maximum and minimum stocks based on *actual* needs.

●

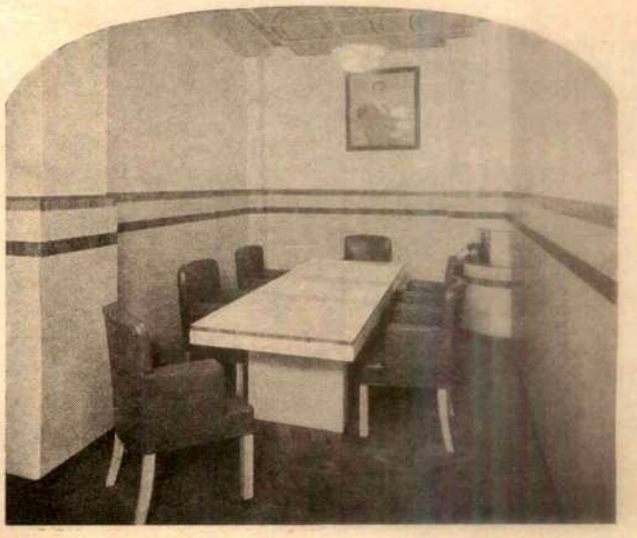
Profits: The Fatal Anodyne

ONE might ask at once: How is it that managements can allow such glaring and expensive anachronisms to exist?

Frankly, we are at a loss for a reason. Knowing something of the principals, we cannot say that it is out-and-out inefficiency or ignorance; yet apathy seems hardly a sufficient explanation.

One of the troubles with both these firms, of course, is that they make a lot of money. Their comfortable dividends for the past five years have never been in jeopardy. They have made money

Furnishing that Promotes Efficient Thinking . . . . . .



For creative business thinking one must have relief from the noise and movement of ordinary routine. The restful simplicity of this conference room exemplifies the tendency to secure this quiet atmosphere. Furnishing was carried out by Edgleys Ltd., of Fleet Street, E.C.4., for Alfred Bates & Sons Ltd., Advertising Agents

Table and panelling are in bird's-eye maple with cross bandings of Australian walnut. Chairs are covered in apple-green hide; carpet is in dark bottle-green

in *spite* of such burdens on the overheads.

But how much more could have been made with efficient methods? If more money was not wanted for dividends it is not altogether a bad thing to plough some back into the business for development purposes. There is such a thing as general trade and employment that could be benefited.

These firms have never been forced by any emergency to overhaul their affairs or to call on an organization consultant for help. Profits being satisfactory, methods have been allowed to jog along as they were.

Once again the statement we have so often made is borne out: *The "business doctor" is frequently more urgently needed in the profit-making concern than in the firm that is almost on the rocks.*

Where management is not inherently vigorous and alive to its job profits can be such a complete anodyne.

●

Office Equipment a Top Management Consideration To-day

EVERY day sees the factors of office machinery and modern systems become more vital in the organization of business. To-day they are considerations for top management, not merely for the departmental heads concerned.

Modern office equipment is now so scientifically mechanized and capable of such huge output of specialized work that the selection of it has gone beyond the scope of the average office manager.

To decide upon a modern machine or system nowadays involves many hours of comparing competitive types. To make a selection intelligently it even involves visits to other firms where the equipment being considered is in actual operation.

The average office manager, with his everyday duties resting heavily on him, has neither the time nor the facilities to carry out all this investigation.

Then there is another important point: The introduction of new equipment quite often involves changes that are beyond the authority of a mere departmental head to make. Such changes may not be very great in themselves, but the fact that they can reach out beyond the office—into the works, stores, branches, maybe even the board-room—makes the consideration a major one if proper balance is to be maintained.

●

The Average Business Now Wants This Specialist

THE time is coming when a specialized individual should be employed to study and advise the purchase of office machinery and systems.

Many large firms already have a Systems Manager, with his assistants, forming a specialized group for this purpose. But the smaller firm is now coming to need such a service; it could be provided, of course, by one man.

This specialized individual would not necessarily be a buyer; final purchase would still be left to the management. His job, however, would be continually to explore all the machinery and systems on the market; to keep abreast of the very rapid developments as they are made and to investigate how the various machines and systems operate in other concerns. He would periodically submit recommendations in full detail—and with complete costs and estimated advantages and savings.

But—important point this—while working closely with the office and other departmental heads, he would make his investigations into improvements from the point of view of the business as a whole. It would not be a matter of his suggesting mechanization of an office job here or there (as the average office manager is generally restricted to doing) but of planning the better equipment of the entire organization.

●

He Introduces Three Important Advantages

THE very fact that office equipment has been developed to such a scientific standard makes it all the more dangerous to deal with its application according to the rule-of-thumb methods of yesterday.

Conversely, its consideration from the proper angle by progressively minded *management* secures three vitally important advantages: (*a*) it ensures continuous knowledge of the latest labour-saving and cost-saving equipment and methods as they become available, (*b*) it ensures their being applied according to *balanced plan*, a factor that is essential for smooth-working efficiency, and (*c*) it leaves the departmental heads free to concentrate on the routine work in hand.

Inter-Office Loudspeaker As Burglar Alarm

FROM a Philcophone user comes this novel use of the inter-room communicating system which was recently introduced by Philco Radio. The man's name has been withheld, as he claims: "Burglars read newspapers, you know, and I don't want them to know about it."

"I live over my shop, so my loudspeaker alarm system was easily installed," this ingenious man explained. "I have placed a Philcophone remote unit under the front of the safe in my shop on the ground floor and have put the master unit in my bedroom on the first floor.

"In testing out the installation, I found that by tuning up the master speaker I could hear a whispered word spoken in the neighbourhood of the safe. If someone hammers on the safe, it sounds so loudly in my bedroom it would awaken the dead.

"I consider this idea well worth its small cost in protecting my shop and safe. It cannot fail to arouse me, because the smallest sound is amplified sufficiently to awaken me. I am wondering, should a burglar attempt to enter the safe, if I would try to scare him away by calling back over the speaker to him, or whether I would have the presence of mind to be quiet and call the police. I hope I never have to find out through actual experience."

The principle of this idea might be extended to meet a variety of circumstances. In business premises, for example, it might be employed to give considerable help to night watchmen or to supplement ordinary anti-burglar systems.

Is Your Factory *In Line* with the New Act?

By
D. R. Wilson, C.B.E.
H.M. Chief Inspector
of Factories

TO take you through an Act of 160 sections in the time during which you are prepared to listen to me involves a rather drastic elimination of detail, and I have come to the conclusion that the least fatiguing method to adopt will be to concentrate mainly on the requirements that are actually new, with the caveat that many existing requirements are made both more stringent and more precise, and that many of them, again, may be modified in order to meet particular cases.

Each Person Must Have 400 cu. ft. Space

Let us take Part I, entitled Health (General Provisions); here my talk is easily accomplished by saying that adequate and suitable lighting must for the first time be provided in all factories, and that risk of overcrowding is met by a requirement stipulating for the provision of 400 cu. ft. per person, instead of 250 cu. ft. as at present. The operation of the latter, however, is postponed under conditions for five or even ten years.

There is also power to require medical supervision in factories in which there is a heavy incidence of sickness or in which there is risk of injury to the health of young persons.

Part II of the Act, dealing with safety, is so important that I feel I must deal with it at some length, and in order to bring out the novel features of the New Act, I am dividing accidents rather arbitrarily into three categories.

First come accidents, which I may call "kinetic", and which are mainly due to moving machinery and vehicles. These, though perhaps the most impressive, are by no means the commonest, and, in fact, they constitute only about 20 per cent of the whole. Their chief feature is that there is really nothing abnormal about them—nothing has given way, and, with very few exceptions, the machine when the accident occurs is simply performing its ordinary function.

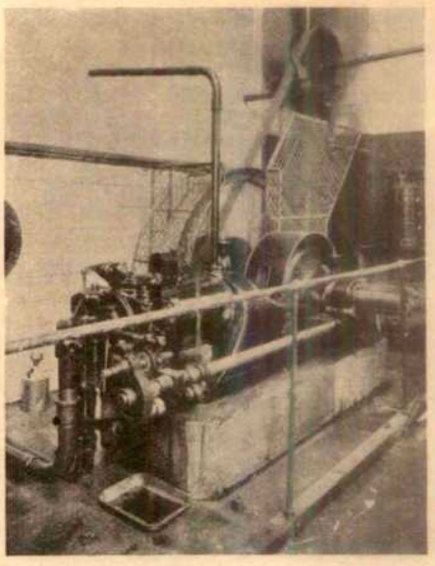
The second category, I should describe as "disruptive", and this would include accidents due to explosion, gassing, fires, electric shock, and breakage of plant (such as the bursting of an abrasive wheel). These differ from those in the first category in that there is, generally speaking, no warning to the victim that anything is going to happen, and injury to the plant in most cases accompanies injury to the person. Though these occurrences are comparatively rare (only 7 per cent of the accidents in 1936 were due to these causes), they are often catastrophic in character, involving the deaths of several persons, while in any case the injuries inflicted are apt to be serious or fatal.

The third and largest category (amounting to 60 per cent of the whole) might be termed "gravitational", and includes all accidents due to gravity. They range from the simple stumble and fall (of the Jack and Jill type) to the collapse of a building or plant, and include the striking of the victim by any falling object and injury caused by the lifting of too heavy a load.

Every manufacturing business will be affected by the new Factory Act which comes into force in July. To give readers a survey in advance we reproduce here part of an address given by H.M. Chief Inspector of Factories before members of the Office Management Association. The remainder of the address will be published next month.

Now the present Acts themselves (as opposed to Regulations made under the Act of 1901) deal mainly with the prevention of the kinetic type of accidents.

Have your workers the right amount of cubic space? Is your lighting adequate? Is there proper seating arrangement for those who should sit all or part of the time at their job? Is the temperature correct at the start and throughout the day? All these factors are covered by the new regulations which the business man must observe under the "revolutionary" new Act



In the new Act more stringent regulations are laid down for the provision of protection against moving machinery. Your present guards may not be sufficient to meet the new ruling

Now let us see to what extent a wider field is covered by the new Act. And I may say at the outset that there is nothing in the Act at all revolutionary in this respect. Some of the clauses reproduce almost unchanged existing requirements, others are new, but do not usually go beyond good general practice, while others again merely make general requirements which have long been observed by certain industries through being incorporated in Regulations.

Two Methods of Safety Used Here

Taking first the "kinetic" or moving machinery type of accident, Section 12, which requires absolutely the fencing of prime movers, is practically existing law, with the exception that electric motors, and so on, need not be fenced if they are kept out of possibility of access.

Section 13, dealing with transmission machinery, also continues existing law as its main provision. This runs quite simply as follows:

"Every part of the transmission machinery shall be securely fenced, unless it is in such a position or of such construction as to be as safe to every person employed or working on the premises as it would be if securely fenced."

As this Section has always been open to misconception, and as accidents on shafting are still far too common, it may be desirable to translate this requirement, interpreted as it has been in numerous High Court decisions, into more popular language.

It will be seen that the employer has two alternatives: either he can fence

his transmission machinery securely (by which is meant that actual contact with it is physically impossible) or he can ensure that it remains safe by position —in other words, he can select either complete protection or prevention of approach.

In practice, we find that the second alternative is usually adopted; generally speaking, overhead shafting is entirely unfenced and low shafting is protected by rails or other barriers past which a man, if he wishes, can get without much difficulty.

Casual Warning To Workers Not Enough

In such cases, an employer, having elected to rely on shafting remaining safe by position, has assumed responsibility for taking effective steps to prevent workmen from approaching it while in motion, and it has been held that the mere exhibition of cautionary notices or casual warnings to workers of the danger of the practice is no defence.

The rest of the Section requires certain safety devices, namely, appliances for immediately cutting off power and the provision of belt perches and striking gear, subject to the power to exempt in suitable cases.

Section 14, dealing with other machinery, has certain important new features. Its main provision is identical with existing law, and treats dangerous parts of machines exactly as transmission machinery, but there is a proviso allowing the use of automatic guards where fixed guards are impracticable, a point that frequently arises in the operation of power presses.

But two important additions are made: First, the Secretary of State may require the provision of what we call "interlock" guards, which are actually "fool-proof", where these have been suitably designed. Examples of machines of which this could be said are hydro-extractors of the kind used in laundries, and dough-mixers used in bakeries.

Secondly, stock-bars on lathes (which are not infrequently the causes of accidents) must in future be treated as if they were part of the machine, and the Secretary of State may extend this provision to other materials or articles, which are not part of the machine itself.

Section 15 allows certain latitude from the strict application of the previous restrictions relating to approach to moving machinery. This, however, is only allowed in exceptional circumstances, i.e., where emergency conditions (such as hot bearings, and so on) arise when examination or adjustment necessitates the immediate removal of fencing, or where, as in certain processes, the machinery must be kept running continuously as in paper-making and flour-milling. Furthermore, its application is limited to male adults over eighteen and is subject to such conditions as the Secretary of State may impose.

An important new requirement is contained in Section 17, which prohibits the use of new machines, unless certain elementary safeguards (such as counter-sinking of set-screws and covering of gear-wheels) have been incorporated.

There are certain other provisions relating to moving machinery. Under Section 19, certain minimum distances between reciprocating machines (such as spinning mules and planing machines) and any fixed structure are required, to prevent crushing accidents. Under Section 20, restrictions are imposed on cleaning of machinery by women and young persons (a frequent cause of accident).

And finally there is an important new provision (Section 21) which requires that young persons under 18 shall be instructed about the dangers of working such machines as may be prescribed, and until sufficiently trained, shall be subject to proper supervision while at work. This Section is aimed at reducing the present excessive—I am tempted to say shamefully excessive—number of accidents that occur to new entrants owing to lack of proper training and supervision.

Finally, one section (Section 22) is devoted specially to the safeguarding of hoists and lifts, which have been found to give rise to so many serious accidents. Instead of merely requiring "secure fencing" as in the present Act, it contains detailed provisions as to how such safeguarding shall be secured.

Turning now to the second category of what I have termed disruptive accidents, certain new precautions are required. Means must be provided for the rapid escape and protection from gassing of workers working in enclosed spaces where there is a risk of dangerous fumes (Section 27), and precautions must be taken against ignition of explosive or inflammable gas or dust, while work is being done in proximity to it, and also against spread of explosion (Section 28).

Precautions Needed Also For This Equipment

Detailed requirements (including periodical examinations) are imposed in respect of not only steam boilers (which are subject to the present Act), but also steam and air receivers (which have been found to give rise to occasional explosions), and water-sealed gasholders (Sections 29 to 33).

A common class of accident, which may be regarded as coming within this category, namely, eye-accidents, due to flying particles, is also catered for in Section 49, which empowers the Secretary of State to require the provision of screens or goggles in processes where this risk exists.

There is also a group of sections (Sections 34 to 37) dealing with escape in case of fire. These follow with modifications the same general lines of the present Act, but are made both more stringent and more detailed. One interesting innovation is a requirement that workers in a factory of any size must be instructed so as to be made familiar with the means of escape and the routine to be followed.

Prevention of the third type of "gravity" accidents is attempted by a series of new provisions. Both chains and other lifting tackle (Section 23) and cranes and other lifting machines (Section 24) are made subject to a number of requirements, designed to ensure that they are in proper order when in use. (These requirements are already in force in certain industries by virtue of Regulations.)

Vessels containing dangerous liquids must be adequately fenced (Section 18). Floors and ladders must be properly constructed and suitable hand-hold installed on staircases (Section 19), and safe means of access must be provided (so far as possible) to the place of work (Section 20).

Lastly, under Section 38, special supervision and other precautions may be called for by the Secretary of State in any factory or class of factories in which there has been found to be an excessive number of accidents.

Even Workshops Must Provide These Facilities

Part III relates to welfare. A supply of drinking water, washing facilities, suitable accommodation for clothing, facilities for sitting for female workers, and first-aid equipment must in future be provided in all factories (including what are now known as workshops). There are also powers to make more detailed Welfare Orders to apply to particular industries.

Part IV contains certain special provisions relating to health, safety, and welfare. Excessive dust of any kind (not merely dust known to be injurious to health as at present) must be removed.

The large number of eye accidents which occur at present will, it is expected, be reduced by a new provision, which requires the use of screens or goggles on processes to be specified by the Secretary of State as involving special risks in this direction.

Shuttle-kissing (more decorously described as shuttle threading by mouth suction) may be prohibited or controlled by regulation.

Underground rooms may not be used if they are certified by the District Inspector as unsuitable in respect of general conditions.

A young person may not lift any load heavy enough to cause injury to him, and regulations may be made prescribing the maximum weights to be lifted by any class of worker.

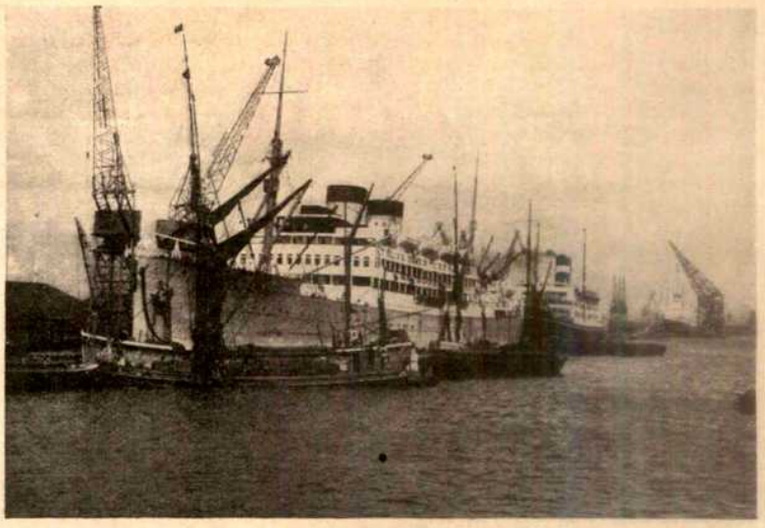
My reference to Part V (Notification of Accidents and Industrial Disease) is easily made, by saying that the provisions are substantially those of existing law, and fortunately so, since future notifications will not invalidate comparison with the past. The standard of reportability of an accident, for instance, remains as an absence from usual work of more than three days.

●

Part VI, dealing with the Employment of Women and Young Persons; Part VII, extensions of the Act to certain premises which are not factories in the ordinary sense; Part XII, penalties; Parts XIII and XIV, application and interpretation, will be published next month.—ED.

THE BUSINESS TREND

Specially Contributed



This Slight and Localized Recession May Mean . . . 1938 A RECORD

FOR the first time in four years there has been a slight check to revival, so slight that the masses throughout the country have scarcely noticed it, and so localized that short time is not being worked to any extent outside a 50-mile radius of London. The exceptions in our major industries are furniture, radio, hosiery and motors (always slack now).

So far only the upper middle class, which has seen many of its investments fall by 40 per cent or more, has been affected. This is proved by high Christmas sales throughout the country, except in Central and West London. If the latter should prove to be heavily down on last Christmas Stock Exchange jitters will not be alone to blame. The improvement in shopping facilities in the London suburbs has already affected the big London stores. Keener competition from the suburban department stores and multiples, and better suburban entertainment now keep many local shoppers from the West End.

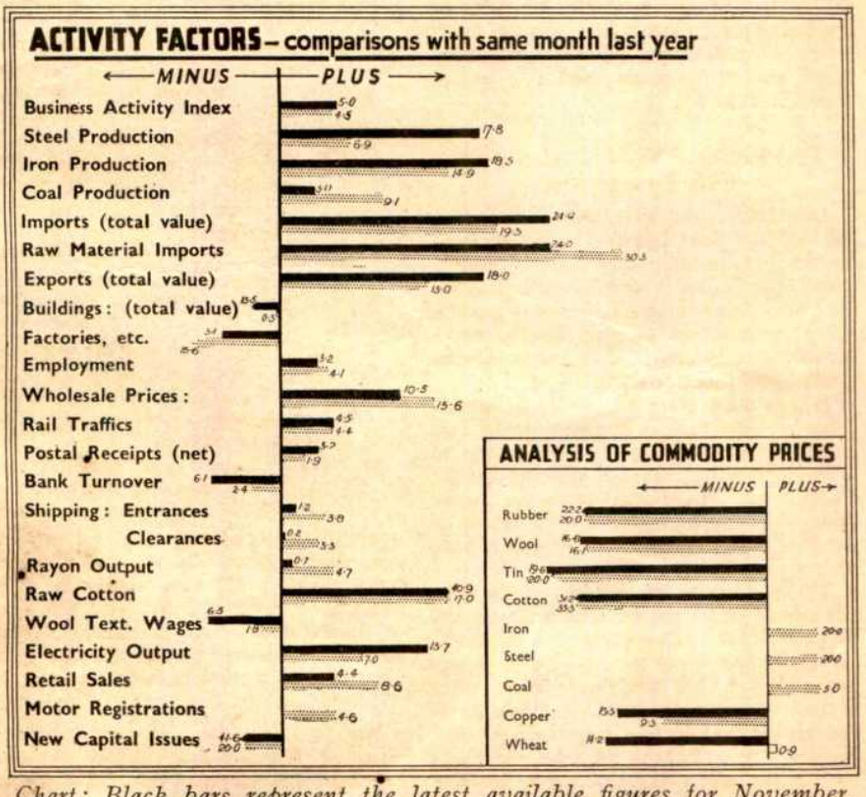


Chart: Black bars represent the latest available figures for November. Figures show percentage increase or decrease as compared with November, 1936. Shaded bars represent the previous month's and show percentage increase or decrease as compared with October, 1936.

Record Iron and Steel Production

THE slightness of the recession felt this autumn is proved by the relatively small fall in employment (119,834), by the record steel and pig iron outputs and by the rise in exports.

If many business men are talking recession it is because they forget how much better trade is to-day than even a year ago, and a year ago we were reaching the 1929 prosperity peak level.

Indeed, a year ago our fear was of a coming boom: "quite clearly," we wrote, "we are threatened with a boom of considerable proportions if the following evidences continue to operate—

"(*a*) cheap money
"(*b*) soaring commodity prices
"(*c*) general wage increases
"(*d*) an armament expenditure of around £300,000,000
"(*e*) a boom in new issues."

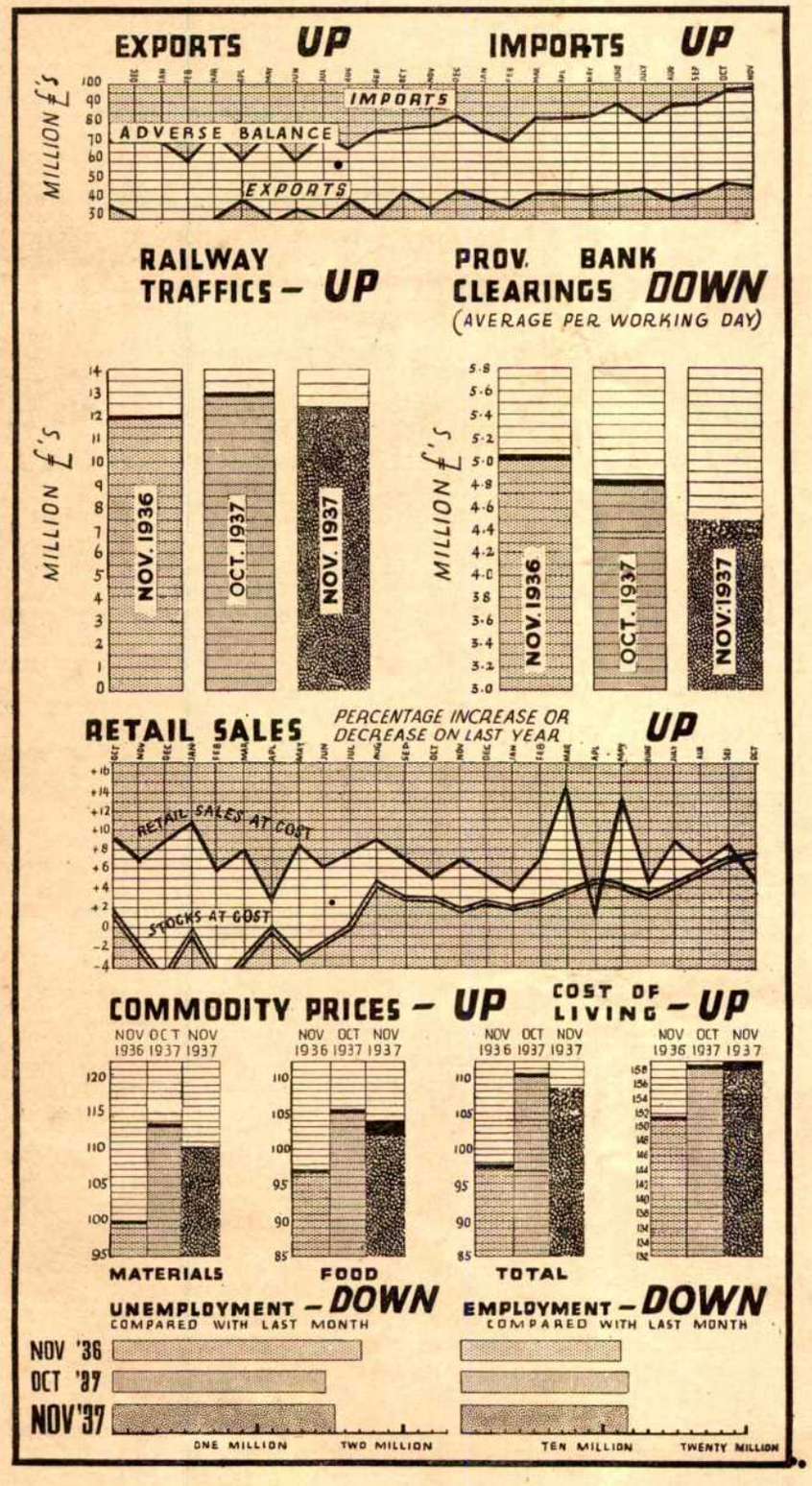
Exactly what we feared had happened by July. Money was still cheap; commodity prices were soaring; wage increases were becoming general; expenditure on armament was increasing; too many dubious issues were being fathered.

War and Slump Spoil Luxury Trading

THIS condition had three results: (*a*) manufacturers bought ahead too heavily on raw materials in view of rising prices; (*b*) the public bought more furniture, cars and luxuries than they might otherwise have done.

Then (*c*) the American recession, the Mediterranean, and the Far Eastern wars reduced confidence. The effect on the luxury trades was pronounced, for they were hit at a time of peak recovery.

Already the process of readjustment is taking place. Commodity prices are steady; a Christmas boom has cleared shelves and will make the textile luxury industries busy again; Stock Exchange nerves are also better; the jobbers have less stock on hand; a good many weak positions have been dealt with. Given no further political upset abroad, the motor, wireless and furniture industries should pick up again.



Four Factors Guide To 1938 Business

ALLOWING for the present situation, what factors will settle the course of business in 1938? The determining factors will surely be these four:

(*a*) the trend of business in U.S.A.
(*b*) the level of wholesale prices
(*c*) the level of building activity
(*d*) the extent of re-armament work.

At last there are signs that the American slump is tailing off. Steel output, now fallen to 27.5 per cent of capacity, has remained stable for a fortnight. Electric power production has actually increased slightly, and Wall Street is also less pessimistic.

When an American slump is checked there are always three possibilities—one is a very gradual and uncertain advance, a second is a meteoric recovery within a few weeks, and the third a further recession. Which of these three possibilities lies ahead no one can confidently say, but President Roosevelt will do everything humanly possible to stop the slump from becoming a landslide. To do this the President must get private house building going; and he must induce the railways to spend again. Finally, he must get the big utilities to spend their £200,000,000 per annum on capital projects and maintenance. It is a courageous programme, expertly planned: how it will work only the event will show. To do this Mr. Roosevelt proposes to provide further cheap money for building, to reduce costs by getting the workers' agreement to lower rates of pay, to raise railway rates and to reduce government competition with the utilities.

3 Face Slump Bogey Fights President

AGAINST Mr. Roosevelt's efforts are ranged a series of factors of depression. One is his inability to balance the budget; another is heavy taxation of undistributed profits, which is a direct curb on enterprise; a third is a lack of business confidence essential to stimulate enterprise either in private building or in utility development. If Mr. Roosevelt wins we can expect a big American revival to begin this spring. Even if he fails, American business should be better than it has been since July, although it could not possibly reach its spring level.

So able a judge as Colonel Leonard P. Ayres, of the Cleveland Trust Co., believes that American business in 1938 will be about six or seven per cent below the 1935 level, that wholesale and stock prices will be still lower than they are now, and that motor production will fall 25 per cent to 35 per cent below this year's output.

Superficially, this forecast looks depressing, but on the whole it will mean a considerable improvement on the present situation in America. Fortun-

ately, rapid recovery is always one of the possibilities of the American situation.

Wholesale Prices May Not Drop Further

IF Colonel Ayres's views as to the fall in wholesale prices be correct, the present check would almost certainly continue. It is true that by September world stocks of 12 industrial raw materials had risen from 83.3 in June (1929 100) to 101.5, or, roughly, 18 per cent. But the prices of raw materials, outside iron, steel, or coal, have fallen by anything from 14 per cent to 32 per cent in the past year. Obviously this fall in price offsets to some extent the rise in stocks.

We now know that the pace of rearmaments is slower than was anticipated, but most of the shadow factories are built, and many are equipped. All experience of mass production shows that, when the plant is running, output normally exceeds schedule.

The reduction in private building is just about what was anticipated. More surprising is the fall in plans for factory construction. The present extent of a decline in building is not sufficiently serious, however, to cause heavy unemployment. Much of the labour displaced can be taken into constructional or maintenance work in armament and in industry.

More disconcerting than the slight fall in (published) building figures is the fall in world production from 106.8 in May to 101.4 in September, coupled with a fall in the League of Nations Index of World Trade in the second quarter of this year from 100 (its average 1929 level) to 97.1.

This does suggest the beginning of a reverse cyclical movement. On the other hand, the American slump and the Far Eastern war are probably at the bottom of this fall in world production and trade, just as they are the prime factor in the fall in raw material prices.

No Evidence of Cyclical Movement

AT least the incidence of any such cyclical movement has been extremely patchy. For conditions in Europe have been improving steadily during the past six months.

The position of France has improved of recent weeks: there is no tapering off in the high level activity throughout the whole of Scandinavia and Germany, nor do Empire countries show any signs of a serious recession. With firmer wool prices, the recent rains, and an abundant early wheat crop, Australian prosperity is well maintained.

Apart from lack of rain, which is affecting the farmers' prospects, South Africa is still booming, with building plans in hand for many months. Even Canada has not been nearly so seriously affected as usual by the neighbouring American slump.

Money Cheap and Basic Industries Booming

ON the whole, therefore, the factors which will determine business conditions of 1938 are definitely favourable when we remember that money is still cheap and most of the basic industries booming.

One aspect of the present slight localized recession is too often forgotten—it came in time to prevent a serious boom, which we feared a year ago. It has shaken out the stock markets and put shares on a reasonable level, has prevented over-expansion in many industries and has brought industry back to selling at a time when the art was being forgotten. Thus it prepares the way for a sound and healthy advance as soon as confidence is restored.

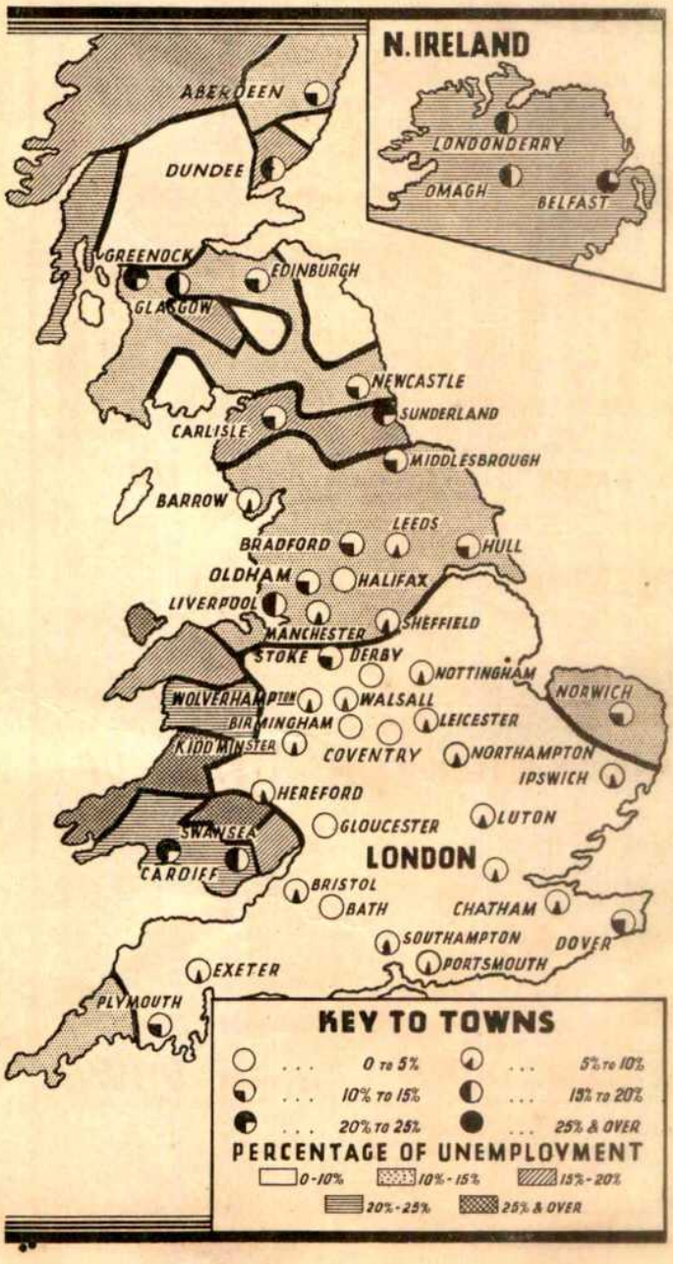
For this reason we believe that 1938 will be another prosperous year and will see the resumption of revival on a sounder basis.

More Surplus Money For Your Products

THE real significance of the recent building trend to manufacturers and suppliers is often overlooked. It is this: spending habits may take a new turn with the slowing down of house building. People have been spending their money on houses because they wanted better homes as part of a rising standard of living.

Having bought their houses and furnished them, the public as a whole are spending less money on houses and more on other things. Providing there is no trade depression, this means that manufacturers of larger cars, finer clothes, higher quality furniture and all other household goods will get more of the money that was formerly paid for bricks and mortar.

NUTSHELL SURVEY OF EVERY TRADE AREA



London District: Latest news of retail trade reveals bumper Christmas sales. City still depressed but signs of optimism appearing. Strong "no slump" statements by leading business men are helping. General outlook hopeful. Employment still good. Factories fairly busy.

E. & S.E. Districts: East Coast ports fish landings lower than at this time year ago. Stocks of timber high. Trade good, prices steady. Oilseed prices have fallen. Agricultural outlook fair but heavy frosts have interfered with some work.

Midlands: Engineering throughout area very active. Both light and heavy sections have full order books. Iron and steel industry continues busy. Demand for electrical goods show increase over this time year ago. Motor industry doing well, exports increasing. Broad view of industry shows all round activity with good 1938 prospects.

W. & S. W. Districts: West country wheat market fair, prices falling. Leather trade disappointing, market weak. Clothing factories active. Aircraft and other engineering throughout area very busy. Swansea iron and steel trades active. Shipping fair. Coal market irregular.

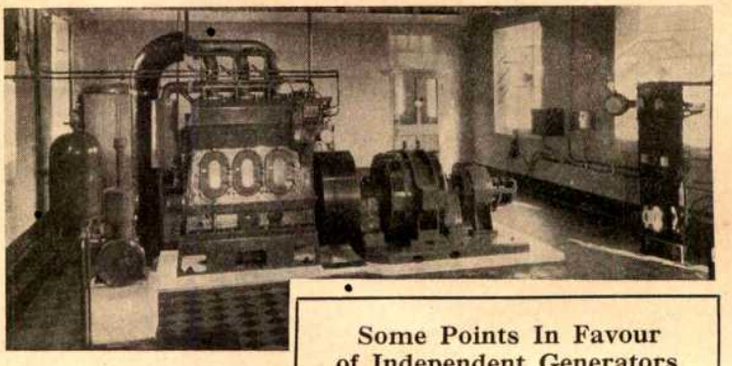
N.W. District: Trade in yarns improved, in piece-goods restricted. Lancashire coal in good demand. Engineering throughout county very active. Timber trade steady. Grain market fair, cotton regular. Shipping has been fairly brisk although markets have favoured shippers.

N.E. District: Throughout area iron and steel industry remains very busy. In many instances supply has not yet caught up with demand. Durham, Northumberland coal shipments good. Fair-sized overseas orders coming in. Shipbuilding on Tyne and Wear active. Several good orders recently placed will keep yards active for months to come. Shipping freights disappointing but rates steadier.

Northern Ireland: Position remains much the same. Little change in general employment figures. Shipbuilding, though, shows some signs of new activity.

It Pays to Think About Generating Your Own *Electric Power WHEN* . . .

among other things the cost of mains current rises above 1D. per unit



By
J. V. BRITTAIN
B.Sc., A.M.I.E.E., A.M.I.Mech.E.

THIS question as to whether it pays or not to install your own generating plant as an alternative to the public supply is an important one, especially to those manufacturers in areas where the cost of electrical power from the mains is somewhat high or whose work is of a nature that prevents the local supply engineer from offering an attractive tariff.

My remarks will also concern manufacturers who cannot obtain a public supply and who are anxious to know the cost of generating their own electricity.

There are only two types of prime movers sufficiently economical to warrant installation as new generating plant. These are *steam* and *Diesel*.

The large generating stations supplying the "Grid" are all driven by steam turbine, the most economical prime mover for large units. This is not only because of low fuel cost but also because of a turbine's very small wear and tear and consequent low maintenance costs.

It is true that there are hydro-electric stations in Scotland but, while water power is essentially cheap, the cost of transmitting power over very long distances tends to level up the cost to that of a coal fired steam station.

The steam turbine station must, however, be above a certain size before it becomes a reasonable proposition and for demands of less than 1,000 kilowatts (about 1,000 h.p.) a Diesel (or oil engine) plant is a better proposition on account of the lower capital and attendance costs.

Use Steam if Boiler Capacity is Available

Unless, therefore, your requirements total some thousand h.p. the turbine should not be considered, but where steam is used for process work and there is already an adequate boiler installation a steam engine driven generating set will be economical and satisfactory.

The cost of attention to the boilers will be borne almost wholly by the process, generating cost of electricity will only be that of fuel. If new boiler plant is required in *addition* to the generating set it is usually cheaper to install oil engines for electrical supply.

The Diesel or oil engine is ideal for generating current where the total load is less than 1,000 h.p., and it should be considered for even larger units, except where a specially cheap supply of coal is available.

For generating purposes oil engines are satisfactory in units of from a few h.p. to 1,000 h.p., thus that they can be used to supply power to a large proportion of factories as planned to-day.

Before dealing with actual generating costs I want to stress one or two important points that affect costs both directly and indirectly.

First, to provide a continuous supply of power as and when required duplicate plant *must* be provided. When comparing costs with the public supply it is only fair to take this into account. although it may be convenient and satisfactory to have only one plant where stoppages for overhaul and breakdown are not serious.

	£	£	£
CAPITAL COST			
2 Generating Sets @ £2,000	4,000		
Installation Costs	1,000		
	5,000		
ANNUAL OVERHEAD COSTS			
Depreciation (spread over 12 years, say 7% of cost)		350	
Interest (say 5% on £5,000)		250	
Insurance		75	
			675
RUNNING COSTS			
Fuel, 80 tons @ £5		400	
Lubricating Oil (6% of fuel cost)		24	
Cleaning, attention, repairs		150	
			574
TOTAL ANNUAL COST			£1,249

(Fig. 1.)

Some Points In Favour of Independent Generators

Can carry unattractive loads. In some industries current can be used for purposes which may upset public supply. No need to worry about power factor or unsteady loads.

Economies can often be made in power costs which are not possible with public supply.

Independence may not always be of first importance, but it does give a feeling of security to know that you can carry on if public supply breaks down or if public tariff is increased.

Some Points Against

Inflexibility. Not easy to provide additional power should extensions be required. Public supply is elastic.

Uneconomical at low loads. When only fraction of total load is required this may mean running plant uneconomically unless small standby plant is installed.

Supervision. Organisation includes an extra department which may be undesirable from management point of view. This depends on whether skilled engineering staff must be maintained for other purposes.

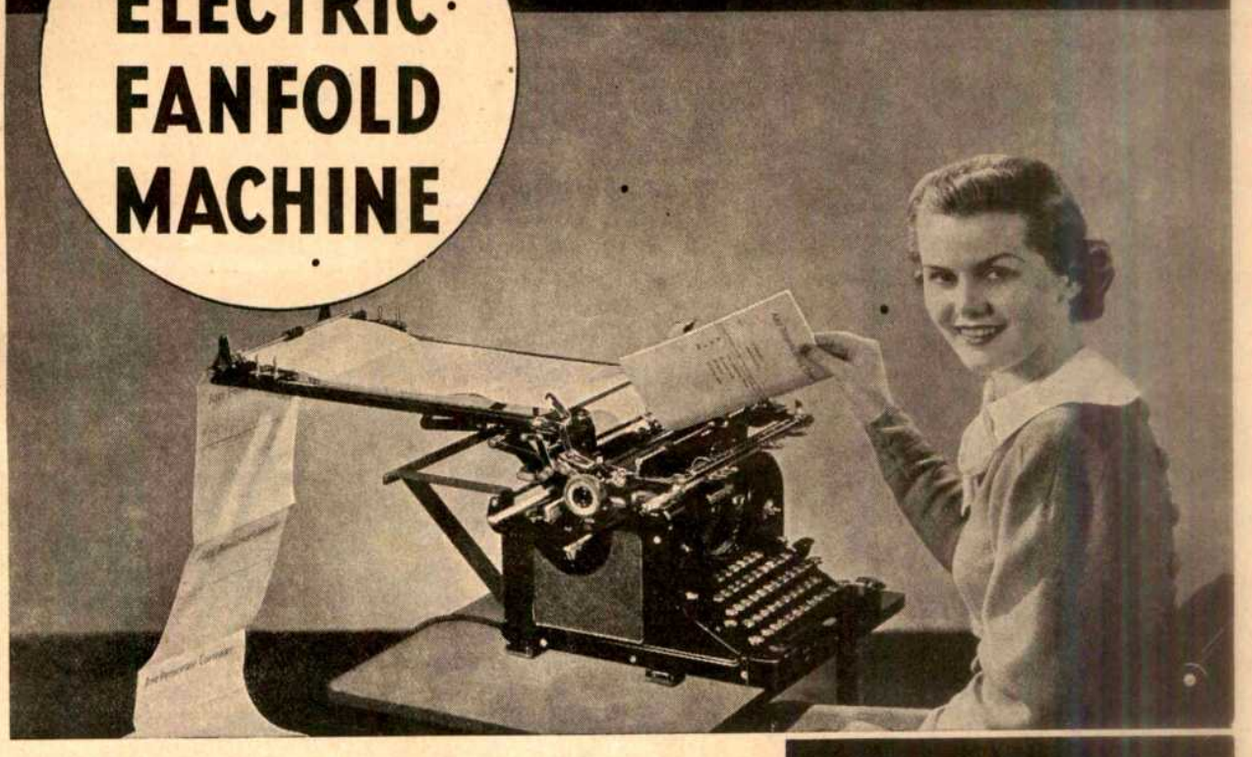
Duplicate Plant May be Smaller Stand-by Type

The general advantages of duplicate plant are however important as they ensure that proper adjustment, cleaning, etc., are carried out with the consequent smooth running and long life of the plant. It may be that a smaller stand-by plant will suffice, and

(Continued on page 47)

NEW ELECTRIC FANFOLD MACHINE

Burroughs



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Carriage Opens *Automatically!*

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Then—as the operator removes the completed set of forms—

New Forms Lock in Place *Automatically!*

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At a time of decline in the country's export trade this firm has maintained most of its volume by . . .

1. ***Frequent Personal Contacts with the Foreign Agents and their More Important Customers***
2. ***Safeguarding the Reputation of Products***
3. ***Having in Control Executives with First Hand Knowledge of Overseas Market Conditions***

By C. E. DAY

from an interview with

C. and E. MORTON LTD.

ABOUT 75 per cent of our business is done overseas, and as we handle several thousands of different products, this represents a considerable volume of trade. The problem of maintaining our sales during recent years when export trade generally has dwindled to an alarming extent has been a thorny one for us. More so, indeed, than for the majority of manufacturers, as we have, during our 92 years of business life, lived almost entirely on export turnover. It is only lately that we have made a real drive to secure part of the home market.

At a time when many firms are exploring possibilities of markets overseas the details of how we have in part maintained our export markets should be of value. Many factors have influenced our success, but there are three, we believe, which have been the main reasons. They are: (*a*) our personal contacts in all overseas markets; (*b*) the reputation built by our products plus the development of the *habit* of buying our goods; (*c*) the fact that our head office executives each have first-hand knowledge and experience of the markets under their individual control, and the agents chosen are the type to which we can give a measure of freedom in the important work of local control.

Sometimes Local Factories Have to Be Set Up

Here we might point out that to meet the situation in certain directions we are now manufacturing confectionery in India and Java, and jams, spices, sauces, etc., in South Africa. Much the greater part of our overseas sales, however, is still supplied from our English factories.

Empire countries form our largest markets, particularly India, South and East Africa, Australia and New Zealand. We also export largely to non-Empire markets such as South America, the Dutch East Indies, and so on.

In many important markets we have our own offices staffed by selected men, trained in our head office in London. In cases where such a policy is not practicable we have appointed agents of repute who are selected after full investigation into local conditions. Sometimes the agents are appointed on the spot by one of our chief executives. We do not have native agents in such markets as Africa, India, Burma, Malaya, and places with coloured populations.

The business of agents is to look after our interests in every respect. They see that supplies get through to wholesalers and retailers without hitch, they investigate complaints, open up new accounts, see that our products get good displays and fair treatment, send us regular trade reports on the financial position of customers and on conditions generally in their areas, keep us fully informed regarding competition—local and otherwise—protect our interests against such acts as label copying, violations of designs, etc., and make helpful suggestions generally, as well as doing all in their power to advise and assist our customers. They may, for example, suggest a way to improve the labels on our packs or to better the packs. They may put forward ideas for new lines or new ways of packing goods sent to their areas. In short, they fulfil the function of management on the spot.

This dealer-display unit looks simple ; it IS simple ; but it took much study of local conditions in many countries in order to produce a planned unit that was compact enough, adaptable enough, and sufficiently illustrative of the products to induce a maximum number of overseas dealers to use it

All reports sent in by the agents get expert consideration here. This is ensured because we have a group of men at head office who have been in the employ of the company for many years and whose knowledge of export needs and difficulties is extensive. Our directors have had first-hand experience in all the most important markets, our sales manager has also worked in such important territories as India, Burma, and Ceylon, and from time to time opportunities are given to departmental managers to study overseas markets on the spot. We feel it is essential, if agents are to be properly controlled, for as many head office executives as possible to have actual overseas experience. We feel that this policy contributes in no small degree to our position in export markets to-day.

Now these men provide the backbone of our administration service. They strengthen and further the work of the agents in every way possible. Tours undertaken by our managing director or by other active directors, for example, help to maintain that vital link-up between overseas wholesalers and business men and the firm here in England. One function, for example, is for our chief executives to go round with the agents and meet as many as possible of the firm's customers.

It is Vital to Preserve the Products' Reputation

Executive tours are carried out as frequently as possible. By this personal contact we are able to pick up many valuable guides and ideas that help us in expanding business. For instance, in a recent tour of Australia, New Zealand and East Africa, the managing director came to the conclusion that our price list must be made more attractive. Now this may sound to you a small, rather trifling point, but actually it is of the utmost importance.

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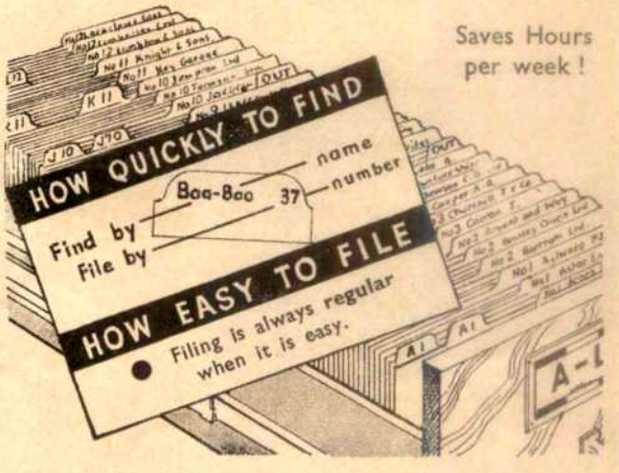

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P 25,534

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BIRMINGHAM ❖ BRISTOL ❖ MANCHESTER ❖ LIVERPOOL ❖ NEWCASTLE-ON-TYNE

To thousands of our customers our price list is an indispensable stand by. It contains itemized information on most of our thousands of lines. Alterations to it are, therefore, matters of much thought and work. We are studying the problem of getting out new price lists in groups of products and printed with coloured illustrations.

The second big point mentioned in maintaining our market is that of reputation. There is a good deal more in this than may occur to you at first glance. For example, in countries where great masses of the public cannot read or write, the people come to know your goods by sight. If you have once got a foothold in such a market, the people will make a *habit* of buying your goods because they know them. In that respect we are in a strong position, because we have had our goods on display in these overseas markets for almost a century.

An instance which shows the value of familiarity and of using clear, picture labels on goods is this: some time ago we packed lines of vegetables in a can that had our familiar colour label, but no illustration of the product. Result: the natives, not being able to read, had to open the cans in order to find out what they contained. Good for business, no doubt, but damaging to our reputation.

Abroad: 'Service' is More Important Than Ever

The goodwill we have in our markets is to a large extent due to the good service we give all customers. Our method of invoicing, quick dealing with orders, sympathetic and patient attention to all reasonable complaints, and the help given on the spot by our agents are a few of the points which have built up our reputation, so important in trade with such places as Africa, India, and the rest.

Here's a small point which illustrates what I've said. A native dealer in India once told me he was often confused and worried seriously by the invoices sent him by other firms, but that he finds ours simple, clear, and straightforward. Frequently, this Indian had to send for an English-speaking person to solve these "riddle-like" invoices. Imagine the annoyance and trouble if you had to send out for an interpreter to tell you what your invoices meant!

Arm-Chair Planning at Home Won't Do

Our experience of export markets has shown that it does not pay to sit back in England and plan marketing campaigns without a detailed consultation with the men on the spot. Our campaigns are created at head office conferences with executives in charge of the markets concerned, and are then put into operation when the agents' agreement has been obtained on all points. We do not, for example, arrange world-wide newspaper and magazine advertising. Even that is a local affair which, when directed by the agent, can effect considerable savings in cost of space and so on.

General marketing campaigns are conducted along similar lines: the agents are the men chiefly responsible for putting plans into operation on the spot. An instance is a recent effort made in Kenya where a door-to-door sampling scheme tied up with use of folders, letters, etc., sandwich-board men, and local Press advertising was carried out by the agent there. This plan was created at head office and the finished work was sent out. The scheme was planned in its first stages with the agent when he was in London.

The value of such conferences is great. For example, we found in this instance that the use of native boy runners was considerably cheaper for delivery of letters and announcements than was the use of the post. We also got guidance on peculiarities in the tastes of different parts of the area, what goods to feature and so on. We pay for such schemes; the agents direct them locally.

Where we have been able to give a central service is in display materials. There are difficulties here, however. Large display stands of light construction are useless in New Zealand because of possible earth tremors. Big display pieces cannot get space in crowded Indian bazaars. The normal types of display illustrations don't please South Americans, who prefer the "pretty girl" type of display to a picture of canned fish or bottled fruit.

These are all small points, but they are significant in bulk. Unattended, they can kill your chance of getting good displays. We have been able, however, to produce display pieces, show-cards, window-bills, and other material which is acceptable in most of our markets. (See illustrations of a successful cut-out display.)

All of our 200 agents in various countries have been carefully selected by our executives for their knowledge, enterprise, and initiative. We are, therefore, confident that the important matter of personal representation in the markets will be successful. To a firm that wishes not only to open but to maintain business overseas, this question of agents is vital.

Exporters must be prepared for unusual transport and unusual customers. Goods must be packed to stand up to the rigours of journeys as well as of climate. A customer doesn't want to be forced to unpack and repack goods into smaller loads before he can move them from quay to destination

Marketing TRENDS . . .

By the
MARKETING EDITOR

Leading Business Men Give Slump Fears The 'Pooh-Pooh'

OUTLOOK for 1938 is good. All pointers are that way, despite misplaced fears about "a slump". Most of the latest key figures show further gains—export and imports up 24 and 18 per cent respectively, rail traffics up 4.5 per cent, shipping entrances and clearances ahead by 1.2 and 0.2, electricity output increased by 13.7 per cent, retail sales up 4.4 per cent, steel output at a record high figure of 1,178,000 tons. Not facts to foster fearful fancies!

Says Sir Frederick Marquis: "This talk about trade depression has been grossly overdone, and I look forward with a great deal of confidence to a period twelve months ahead. . . ."

H. Gordon Selfridge recently "told the public" from the front page of a national daily newspaper that "There is no slump in this happy country and nothing to indicate that one is on the way."

Other big industrialists and business leaders (and the Government) say emphatically that 1938—and after—will yield bumper business crops.

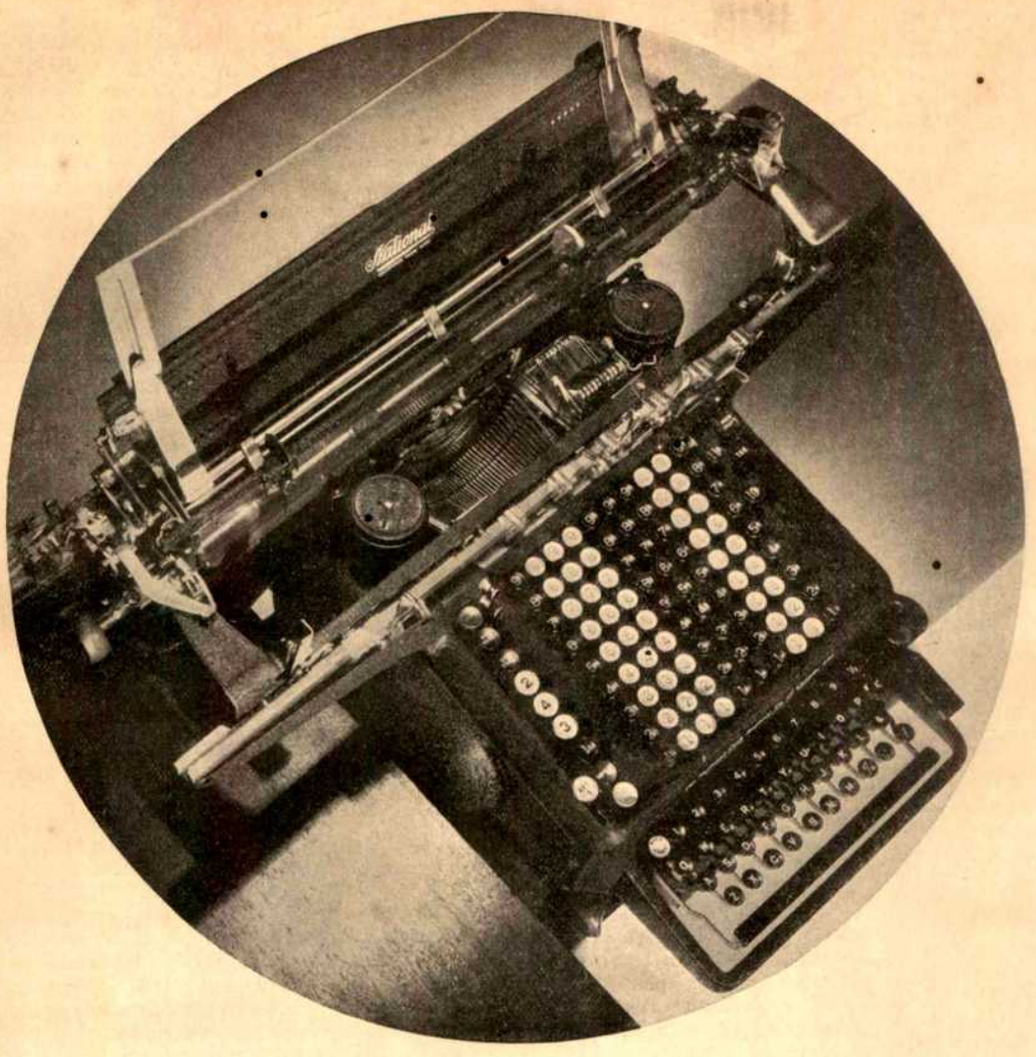
●

Higher Profit Policy Is New 1938 Spur to Sales Managers

BIG firms are framing a new key policy for sales managers this year—aim to make sales staff "profit conscious". Though the trend is not necessarily against volume sales, it does infer that possibility. Most likely effects, however, are restriction of "small profit, little selling lines", better standardization of products, increased selling pressure on most profitable goods.

Says Roland Dunkerley, general manager and director of Vantona Textiles,

(*Continued on page* 40)



A constant progressive policy in the manufacture of equipment for the assistance of business efficiency has made the National Cash Register Company famous throughout the world and placed its products in millions of businesses.

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IDEAS For Busy Sales Managers

Identification Scheme To Build Up Sales

THE makers of a branded elastic-type yarn have just adopted an identification scheme for the various kinds of goods in which their yarn is used. The idea is (*a*) to advertise the yarn and (*b*) to help build up the goodwill enjoyed by the product because of its quality.

Identification is made possible by means of rigid woven tabs, trimming tabs, stick-on seals, hang-on tickets and a general stick-on label. These are uniform in design of the name but are of different sizes and shapes so that they are appropriate for the garments to which they are attached.

No results are yet available but it is hoped that the scheme will lead to at least a 10 per cent increase in sales.

o

Dealer-Aids That Retailers DO Use

CONCENTRATION on window and counter displays during the past two years has been largely responsible for a 35 per cent increase in the sales of a branded product selling to women.

The manufacturer concerned has found that it pays to exert pressure at "the point of sales"—the retailer's shop. Moreover, he has pushed up sales this way at little extra total cost for display materials. Where previously he had issued to dealers bulk lots of cut-outs of an ordinary type he now relies on a few expensive, outstanding display units. These are loaned to a dealer for a month or so and then passed on to the next shop. Not only do the units make a "stopping" display but they are in constant use, whereas the ordinary display pieces given to retailers are often quickly discarded.

The special units cost as much as £5 each, as compared with a few pence each of the ordinary show-card kind of material. One successful unit is a coloured lights sign, another a hand-painted figure standing four feet high. Such units are so obviously "attention getters" that retailers are anxious to dress their windows with them. Each new display unit the manufacturer now brings out is quickly booked up for a year ahead.

o

Price Tickets Used As Colour Range Indicators

A NEW scheme now being tried out by a textiles manufacturer is the use of coloured price tickets in window displays. The idea is very simple but first reports indicate that it is well worth while.

Retailers are invited to dress their windows with a selection of the firm's fabrics. Attractive price tickets are provided for each line which not only give the cost of the material on display but show a full range of the colours available in the type of fabric concerned. For example, although only one colour of crease-resisting velvet is in the window, the price ticket attached is printed to show all the other colours in which this type of velvet is available.

The manufacturer states that over half of his retail accounts have tried out the idea and have reported good results.

o

Personal Letters Help Increase Distribution By 18%

BY using personal letters to dealers prior to representatives making a sales drive in new areas, a London manufacturer of equipment selling to garages, motor agents, hardware merchants and ironmongers, has been able to increase his retail accounts by 18 per cent.

The normal routine of travellers calling on new retailers to sell this product did not break into the market quickly. After three calls by representatives on all dealers in an area, only 28 per cent of possible distribution was obtained. Reports by travellers showed the manufacturer that there was considerable difficulty in getting to see the right man.

The scheme of mailing personal letters a day or two prior to the salesman's call was tried. The letters, addressed to the principals concerned, explained the product and asked the executive to see the traveller when he called. Explanatory literature was also enclosed.

Figures to date show that in two-thirds of the time taken formerly, 46 per cent of possible distribution—18 per cent more than by the old method—can now be obtained in a sales area.

New Pack For Men Only

MEN do not consider it effeminate to use talcum powder; even the huskiest appreciate it after shaving. But men are shy when it comes to buying this useful product, and one of the reasons for this has been the pack.

The ordinary talcum powder tin suggests feminine beauty aids. To call the contents 'after shaving talcum' is not enough. The married man may ask his wife to buy a tin for him, then hide it in his bathroom cupboard for surreptitious use. The bachelor too often does without.

The Metal Box Company solved this sales resistance problem. They have produced a talcum powder tin especially for men. Their 'Widespray' tin is different in shape and design. Its appeal is masculine.

The new container is a puffer tin. Under the screw cap is a floating valve which distributes the powder evenly. No shaking of the tin is necessary.

The user holds the tin in one hand, presses its sides and directs the powder on to his other hand. It is easily handled, simple to use.

The shape of the tin lends itself to effective design and display. It affords manufacturers a means of creating a big market for after-shaving talcum powder

o

Lit-up Showcard Raised Sales By 8·3 Per Cent

USE of an illuminated show panel has been the means of raising sales of a car polish by 8.3 per cent in the past four months.

The panel is fairly costly and is supplied only to dealers who give a minimum order for six dozen tins of the product. By this scheme the manufacturers have been able to impress retailers with the value of the show piece and have got displays in most of the worthwhile garages, service stations, ironmongers and the usual retail outlets for this trade.

Attached to the show panel is a lamp holder and flex for plugging in to a convenient electric point. The actual illustration on the panel is similar to that used on the firm's ordinary show cards but the light makes it much more effective. A display grouped around the panel now makes a well-knit show that catches the eye. Tests show that almost 100 per cent of the dealers now use the display for a month or more. Previously, many retailers never used the show cards and a large number of those that did used them for only brief periods.

o

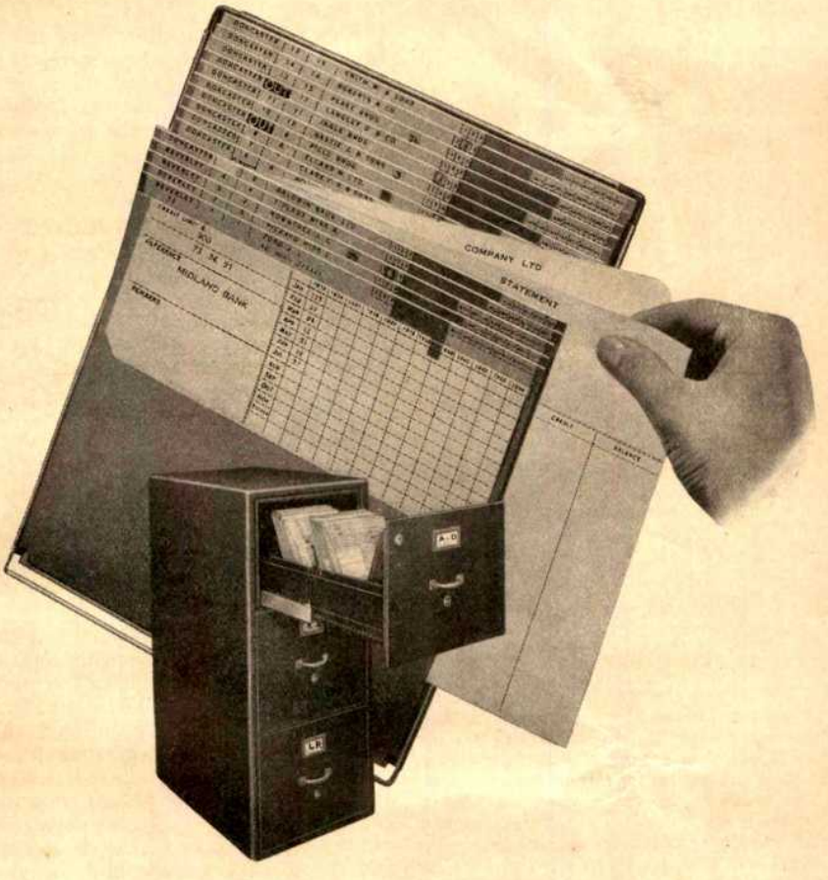
Weather Influences Almost Every Sales Campaign

TURN to the unique chart published on page 40 and see how the weather has influenced the sale of commodities. Correct weather records of the past and forecasts for the future can be of tremendous help when planning your sales promotion campaigns.

SUCCESSFUL MECHANISATION

depends very largely on the correct choice of

EQUIPMENT and SERVICE



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BRANCHES THROUGHOUT THE PROVINCES

We are Planning This Year's Business Expansion

On these New Marketing Facts and Figures

Says SIDNEY D. BARNEY
Managing Director, Keith Bradbury Limited

IF you were asked how much is the annual turnover of marketing, as an industry, what would be *your* reply? The estimated figure is £2,000,000,000, yet, as the Rt. Hon. Viscount Leverhulme says in his foreword to the second edition of the *Marketing Survey of the United Kingdom*, "it is the least informed of all industries". Which means that you and I are spending blindly some of our money in the "marketing industry".

There is undoubted justification for Lord Leverhulme's statement. Marketing problems are so complex and the successful selling of goods on a large scale so dependent on a variety of factors and conditions that guesswork still plays a part in, say, the launching of new products or branches. Planned marketing and selling has not yet reached factory efficiency.

It Is Our Guide to Opening New Branches

To my mind, the publication last year of the first *Marketing Survey* was a notable milestone on the road to scientific marketing. It contained most of the vital facts and figures, intelligently presented, essential to the man who does plan his marketing. Used properly, it enabled him to find out the weak spots in his distribution or opened his eyes to unsuspected opportunities. I can quote its usefulness from personal experience. Upon the information in its pages we found that it should pay us to open a branch in Bournemouth, which we did. That move looks to be successful.

The new edition of the book follows the lines of last year's issue, but has been considerably enlarged and developed. In looking through it for purposes of this review, I was surprised to find how important the past 12 months have been to sales and distribution executives. The return of prosperity, for example, to the North-East Coast, Scotland, and South Wales has been such that sales plans certainly must be adapted to take advantage of the situation.

Some of the new features include articles on where the £400,000,000 rearmament money will be spent, an analysis of the £200,000,000 taken by pleasure industries last year, where the chief industrial developments are taking place, the changes in building activities, trends in chain stores and co-ops. and so on.

For the first time an analysis is made of the largest markets (towns from 40,000-50,000 population), the volume of tourist traffic, the number of boys and girls at elementary and secondary schools, a breakdown of employment figures by categories, the number of women workers in industries, a list of Marketing Boards with the names of officials and their duties, a register of nationally marketed goods, classified by trades, additional retail outlets, etc.

All the vital figures for any district—population, number of private families and their incomes, standard of living factors such as wireless and car licences, telephones, etc., analysis of employment, professional occupations, etc.—have, in this issue, been brought up to date and, in many cases, given in greater detail.

In his preface, Cecil Chisholm, M.A., the editor, invites criticism and suggestions. I would, therefore, like to mention one or two small points. It is true that the list of retail outlets has been extended, but there are still some notable absentees. Cycle dealers, builders' merchants, paint and wallpaper dealers, opticians, "art" shops—these are a few that come to mind. These retailers are, I think, just as worthy of listing as, say, the fried fish dealers, who are included!!

The articles at the front of the book are informative and very useful. The analysis by Colin Clark, M.A., on how the consumer spent his £5,000,000,000 income last year is illuminating, and the table showing the cash available for surplus products should give sales managers many fruitful ideas.

Helps to Keep Track of the Holiday Buyer

The article by Hugh Weeks, of Cadbury Bros., Ltd., on tracking the holiday consumer should also be helpful, especially to those engaged in big summer trade. (Incidentally, the figures given are published for the first time, I understand, with Post Office co-operation.)

Important in this class of publication is the manner in which the material is presented. With this I can find no fault. Section 1, for instance, contains the articles which all bear on marketing trends; Section 2 gives the Purchasing Power Index; Section 3 deals with the national market and contains a special map supplement on markets; Section 4 gives the largest markets in analysed form, while Section 5 deals with the county markets. Sections 6, 7, and 8 contain information on the register of nationally marketed goods, marketing boards, and directories of marketing services and supplies, respectively.

The Purchasing Power Index deserves special mention if only because it shows so clearly the position of all the chief cities and towns in the country. Coventry, Luton, and Oxford are shown, for example, as Britain's most prosperous towns.

Quite a useful small feature is that titled, "18 Ways to Use this Survey". It gives 18 actual examples of how firms used the first edition successfully. I think readers will find the feature opens their eyes to the multitude of uses to which the *Marketing Survey* can be put.

This book should find a place on the desks of all business men, particularly those executives engaged in marketing, sales, and advertising activities.

o

Can You Adapt This 'Contrast Display' Suggestion?

IN Bolton a local women's association has produced a striking display which could be adapted by foodstuffs and other manufacturers. The display consists of two counters for food products. Behind one stands an assistant in a grubby overall; the food is unprotected from dirt, dust and flies; the general appearance of the counter is slovenly. By the other counter the girl assistant is dressed in a clean overall, her hands and nails well kept, the food is protected from contamination, and so on.

By means of these two strikingly opposite displays local housewives are instructed in why they should buy from clean, well-kept shops. There is also a lesson on the value of packed and wrapped foodstuffs.

This type of display could be used effectively in special sales drives in selected areas. It has attracted thousands of people in Bolton.

Accounting Costs Cut

Business executives tell how electrified machine simplifies book-keeping . . . cuts costs.

MANUFACTURER

"We were very doubtful when first approached as to the possibility of devising a satisfactory mechanised system for our own rather exceptional business. After two years' experience of the Remington Accounting Machine, however, we can truly say that we are absolutely delighted with the result, as despite considerably increased turnover, our counting house is being run with a much smaller staff than previously.

"Much more important, however, is the fact that the possibility of error has been almost entirely eliminated and our accounts are now kept in daily balance.

"The importance of having instantly available accurate information showing one's position from day to day can scarcely be overestimated and, even if our new system were to cost double the old, we would never revert to pen and ink methods."

WHOLESALER

"We have been agreeably surprised to find that a steadily increasing volume of work has been encompassed largely owing to the ease of operation and flexibility of the Remington Accounting Machine. Our Accounts Department handle the books for a number of different Companies and for nearly every one we are rendering a cash book, analysis of sales in quantities and value, purchase day books and so on, amounting to over twenty different records."

RETAILER

"Since mechanising our Sales Ledger Department over seven years ago, Remington Accounting Machines have coped with a rapidly increasing volume of business in a very satisfactory and economical manner, and we have decided that as the time arrives to add to our installation, we cannot do better than allow Remington Accounting machines to handle the extra work for us."

PUBLIC UTILITY

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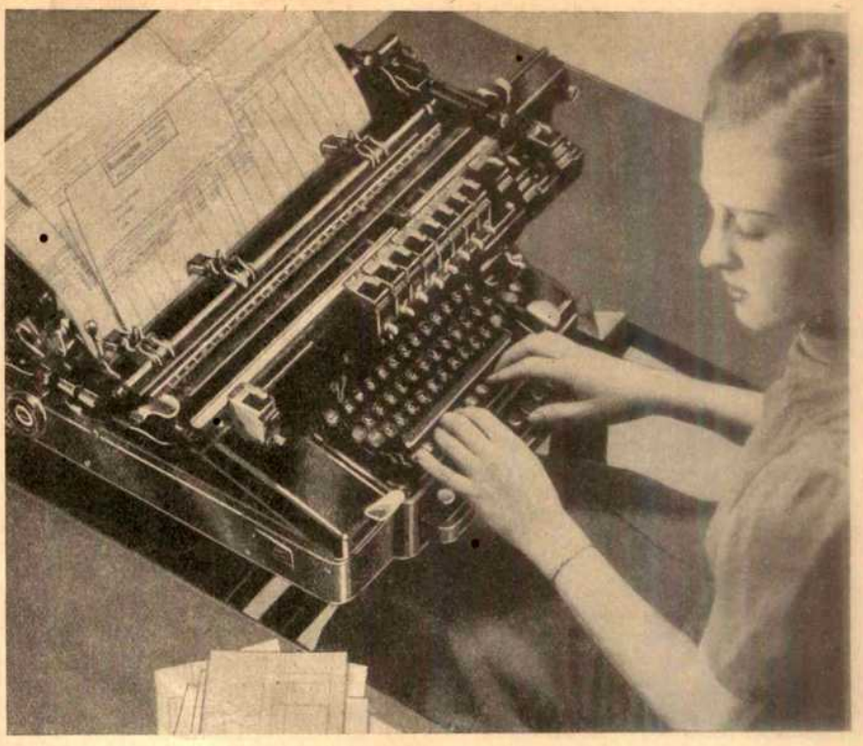

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NEW ROAD TRANSPORT FEATURE: Hitherto there has not been available for the *business* man any descriptions of practical road tests of new vehicles written from the purely *business* point of view. A wealth of information relating to technical tests is always at hand for the specialized transport man, but in the new feature which Mr. Twelvetrees starts below we have arranged to describe road tests carried out especially to put before our readers, not the usual technical facts about mechanism but those facts about load-capacity, running costs, manœuvrability, accessibility of parts, manufacturers' service, etc., that the business executive needs to know when deciding new vehicles for his transport service.

In every case our tests will be carried out with *practical loads*, i.e., with cases of goods of various kinds, machinery and awkward loads, such as timber or steelwork. The test this month was carried out with a load of sand. This factor will not only test the ease, or otherwise, with which a vehicle can be loaded and unloaded but it will thoroughly try out the vehicle under the actual conditions which a business user is likely to impose in his daily work.

This New 25 - 30 Cwt. Truck Is Well Designed

From the USER'S Point of View

'BUSINESS' Special Road Test No. 1 . . . . . *Morris Commercial 'Equi-load'*

By

RICHARD TWELVETREES
A.M.I.Mech.E.

Road Transport Editor
of BUSINESS

"NOW, please don't tell me anything about the qualities of this vehicle, we shall know all about them by the time the day is out. . . ."

Right at the start I laid this injunction on the mechanic from Stewart & Arden, Ltd., who came by appointment to meet me at Godstone with a new Morris-Commercial "Equi-load" 25-30 cwt. truck.

Beginning with this first of the new series of special road tests of vehicles for BUSINESS readers, I have established it as a principle to start every test without any sort of bias that might be conveyed by manufacturers' statements about their vehicles. It is my intention to pay no heed to their claims as to features of design or performance, but simply to record the plain facts which I observe under actual working conditions.

Having delivered my injunction, therefore, I took over the wheel and we set out on our first test.

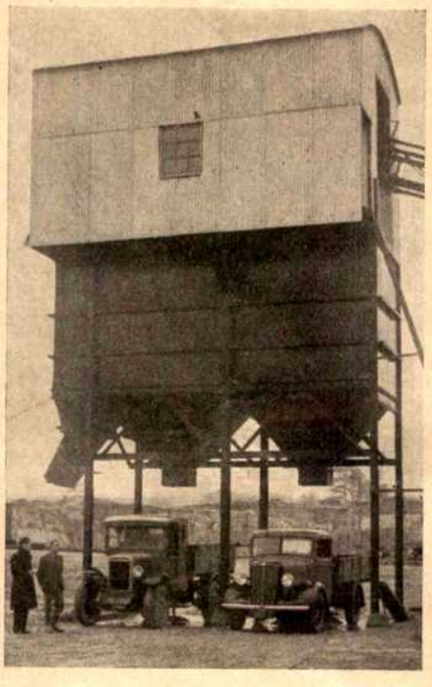
Excellent Protection is Provided for The Driver

Driving through a winter drizzle over slushy country roads was not half so unpleasant as you might think, for Morris-Commercial Cars, Ltd., have spread themselves in the matter of cab design. A wide driving compartment, reduced in height, equipped with a "maxi-vision" windscreen and arranged for conveniently situated controls, makes the driver very comfortable and relieves him of distractions liable to take his attention from the road.

"Do you like the new overhead valve engine?" inquired my companion.

"Yes, it's lively enough, but as to power—we shall see later when we've taken a load aboard and climbed those hills," I replied, indicating the prominent heights of the distant North Downs.

A little later we pulled in at the Merstham sand-pit, and queueing up with a string of trucks, awaited our turn to run under the chute.



"For the test run we took on thirty cwts. of Sand from the Merstham Pit, Surrey, taking our turn with other lorries in the course of their ordinary day's work"

When the man in charge gave the word, a full load of sand fell into the body with a swish. We both looked curiously at the springs which settled down under the weight, but they showed no sign of impaired resiliency. The weighbridge ticket showed our gross weight as 62 cwt., of which 30 cwt. represented the actual pay-load—or *test* load in this case, as we were out on trade registration plates.

"New Morris-Commercial, eh?" queried the pit manager, looking over the model with interest.

"Yes; like to see how it behaves in your pit?" we asked.

Really Rough Going to Seek Out Weak Points

Consent having been given, we left the roadway and steered the lorry down a 1 in 4 slope, on which both sets of brakes, tried in turn, held without creeping, and drove at a lively pace over a timber track to where a Ruston power shovel was at work digging sand from the face.

I wanted to discover just how the "Equi-load" idea worked out in practice under very severe conditions, and whether the new chassis layout actually has the effect of apportioning the weight of the load more evenly to both axles.

The effect was truly remarkable, for when bumping across the timbers, the whole lorry gave the feeling of being balanced properly, instead of sitting down hard on the rear wheels, leaving the front ones with inadequate adhesion for safe and accurate steering.

To verify the observations, my companion was asked to drive back over the same stretch of timber track whilst I watched the suspension carefully. The surface inequalities certainly set up abnormal spring stresses, but these were absorbed easily, leaving no doubt whatever as to the quality or proportions of the spring leaves.

"Is that good enough for suspension?" asked the demonstrator after we

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had exhausted all attempts to confound "Equi-load" theories by practical test.

"Looks like 100 per cent efficiency to me," I remarked, mindful of the better road-holding qualities, precision in steering, reduced risk of skidding on greasy surfaces, and more uniform tyre wear, all affected by the good springing and balanced load distribution.

By this time we had collected a number of spectators, including drivers of other lorries who watched the unusual procedure with undisguised interest, but we had to bring the display to an end and proceed with the test in hand.

In climbing out of the pit workings we had to negotiate a 1 in 4 incline on a loose sandy surface, but that caused no anxiety. The new overhead valve Morris-Commercial engine gives a maximum output of 44 b.h.p., and as the bottom gear is very low, we only had to tread on the gas to pull the load steadily up the slope with power to spare.

It was not just a matter of rushing the short gradient, the engine hauled us out as if anxious to prove its willingness to work hard.

"You see, there's plenty of power!" remarked my companion.

SUSTAINED Power Output: What Operators Want

"Agreed," I answered, "but *sustained* output is what the operators want; we'll try it out for that soon."

A few miles of hard going along narrow rural by-ways brought us to the foot of White Hill, a trying ascent half a mile in length, finishing with a gradient of 1 in 4, up which trade vehicles of the district are obliged to travel to reach the residences on the Caterham Heights.

"Now we shall see how your 'Equi-load' job really works," I remarked, and with that we opened up on second gear to make a steady climb towards the summit, only changing into bottom gear as the 1 in 4 portion loomed in sight.

When the call for maximum effort was made, the Morris-Commercial responded in no uncertain manner by surmounting the critical gradient without the slightest hesitancy.

We stopped at the top of White Hill to feel the radiator, which was still only "hand-warm", and to look round the engine for possible oil leakages. Finding none, we continued towards a part of the route where further tests for suspension efficiency were made.

Loose pebbles and pot-holes failed to impair the smooth riding of this nicely balanced truck, and I was particularly pleased to observe that, even when traversing abnormally rough surfaces, the vehicle steered accurately with finger-light action at the wheel.

Brake Tests After 'One in Five' Decline

A descent of 200 ft. in the next mile enabled us to find out all we wanted to know about the braking qualities. After checking the stopping power once again on a decline of 1 in 5, the truck was allowed to gather speed with the foot-brake applied lightly. The idea was to warm the drums thoroughly before making further stopping tests, in order to see whether the temperature thus created would affect the retardation adversely.

A minute or so later the brakes were applied fully, which brought us to rest from 30 m.p.h. in less than 3 seconds, timed by stop-watch, which is quick as anyone wants. Other brake tests were made on different kinds of road surfaces, but in every case the machine came to rest without wheel-skid or sliding out of its true course.

NO Engine-Nursing to Get this Fuel Test

Back on the main road again, we stopped to fill a one-gallon test tank which, coupled direct to the carburettor, enabled us to take an accurate record of fuel consumption.

From that point a steady 30 m.p.h. was maintained over a part of the test itinerary presenting average give-and-take road conditions. In view of the result obtained, I must mention that no attempt was made to economize fuel by "coasting" down hills or other petrol-saving artifices.

In fact, the truck was driven exactly as though it was not under test for fuel consumption. Several of the hills called for long spells of travel on the third or "traffic-top" gear and, on one or two occasions, it was necessary to stop and restart by reason of traffic obstructions.

It was only when we had covered 24 miles that the engine gave a pathetic little cough and died out, having exhausted the one gallon of petrol in the test tank. This performance, in view of a carburettor setting rich enough for the hill work we had already accomplished, augurs well for the economy of

(*Continued on page* 48)

FACTS AT A GLANCE

Vehicle Tested: Morris-Commercial "Equi-load" 25/30 cwt. lorry.

Makers: Morris-Commercial Cars Ltd., Adderley Park, Birmingham.

Capacity: 25/30 cwt.

Body Length: 9 ft.

Wheelbase: 9 ft. 9 ins.

Fuel Consumption: 24 m.p.g.

Pay-Load Ton Miles Per Gallon: 36.

Maximum Gradient Climbed: 1 in 4.

Annual Tax: £20.

Vehicle Price: £215 as standard lorry.

"There was rough going in the sand pit, with a 1 in 4 climb over loose surface at the exit. It proved a good test for general stability and 'handiness' of the vehicle"

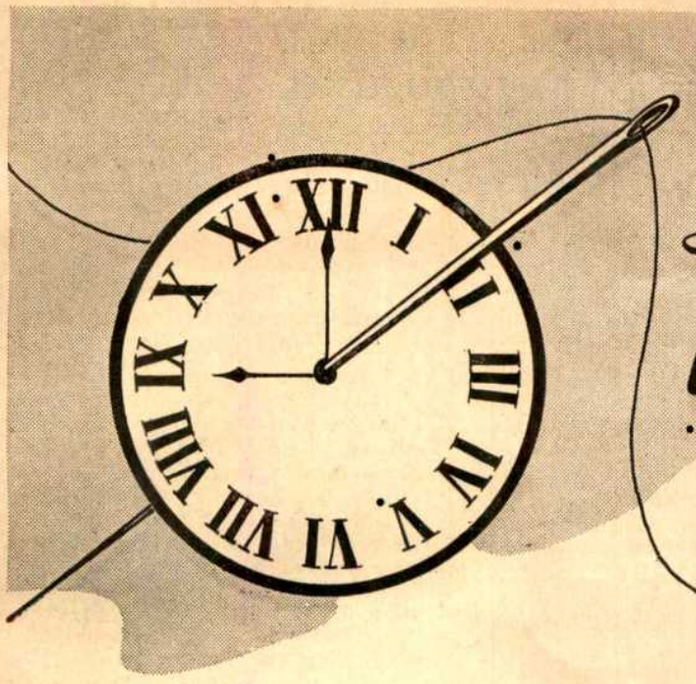
How They Build Modern Factories For Better Business To-day

A SPECIAL issue (some 184 pages) devoted almost entirely to the modern design, construction and equipment of factories makes the December, 1937, issue of *The Architects' Journal* of particular interest to business men.

Especially appropriate is a 50 page section devoted to a series of well illustrated, complete schemes revealing details of the modern factories of 28 named firms who are busy manufacturing a variety of products to-day: soap, ice-cream, gyro-compasses, ink, beds, leather, cigarette papers and so on.

Many sizes of factories are included, from the large-medium to the very small in size. In fact, the small ones are in the majority in this authoritative review, which makes the matter all the more interesting to the average manufacturer to-day.

Copies of this issue can be obtained through your newsagent (price 1s.) or direct from The Architectural Press, Ltd., 9 Queen Anne's Gate, Westminster, S.W.1 (1s. 3d. post free).

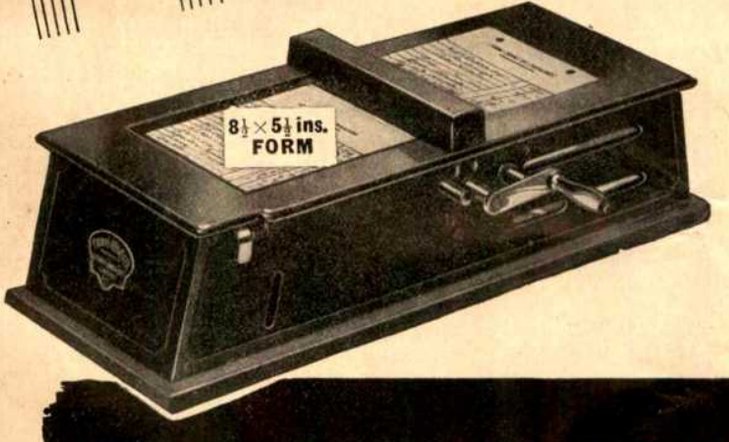


A Stitch in Time...

...*"A stitch in time saves nine"—in other words, one worthwhile idea or action can save nine unprofitable minutes out of ten. Just so*

The PRIMUS attachment, as supplied by us, fits any typewriter and facilitates the smooth flow of continuous forms. It allows the machine at a moment's notice to be used for either billing or ordinary correspondence work.

PRIMUS



Continuous Stationery saves six unproductive operations out of seven on routine tasks like billing, invoicing, stock-control, etc. In these tasks where a number of copies of each record are essential, PRIMUS saves your stenographer's time and conserves her energy and powers of concentration because the use of this stationery eliminates all irksome jobs such as insertion and withdrawal of carbons, alignment of forms, etc.

FOR HANDWRITTEN RECORDS, the PRIMUS Autographic Register, used with PRIMUS Continuous Stationery, effects an equal saving of time and provides a guaranteed check on each transaction because a copy of each set of forms is automatically locked into the machine for audit purposes.

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The Management could not get KEY FACTS and FIGURES in time until . . .

We MECHANIZED Our Accounting

This organization, having moved into a new building designed and constructed to meet its special requirements and embodying the most modern anti-fire devices, strong-rooms, etc., nevertheless decided to install that type of office equipment which provides fire-protection at the point of work: i.e., files and cabinets that themselves give full fire-protection, thus avoiding the need to carry thousands of irreplaceable records to and from the strong-rooms

By LEWIS H. PRATT, F.C.I.S., General Manager and Secretary, The Leeds Provincial Building Society

THREE years ago we decided, after very careful consideration, to change the whole of our accounting system from pen and ink to mechanization.

Pen and ink had served us well for many years; indeed, it had stood the acid test of the abnormal growth in our assets between the years 1930 and 1934, but it was proving inadequate to present-day needs.

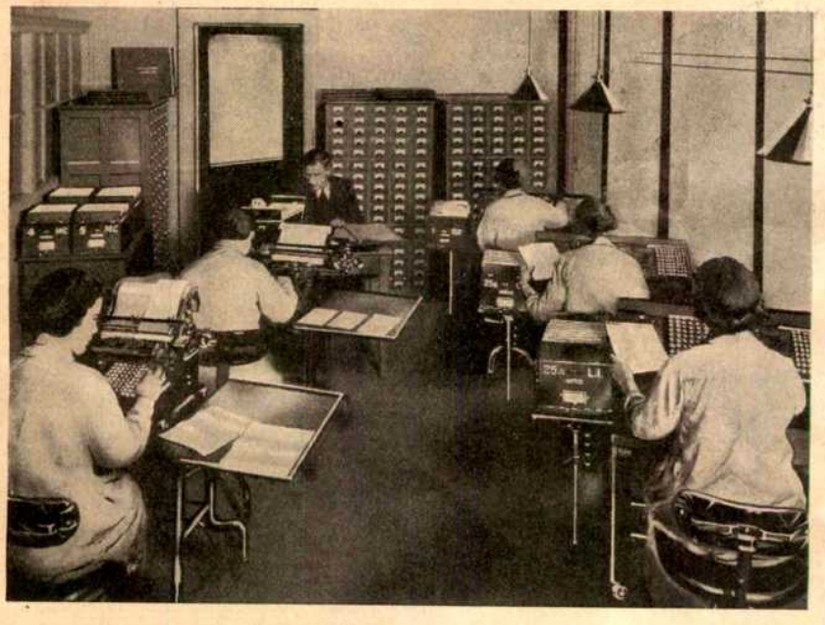
The question of how to mechanize to the greatest possible advantage naturally took some time to decide. Machine experts produced ideas and propositions; visits by members of our staff were made to existing machine installations in various parts of the country, and their reports were carefully scrutinized and comparisons made.

Finally we came to the conclusion that, provided we could find a machine sufficiently flexible to permit of it, our best method would be to adapt the machine as closely as possible to our existing pen-and-ink system. Of course we had to be sure that in doing so we were not sacrificing any of the essential advantages of machine posting, such as higher speed, proof of accuracy, elimination of peaks, etc.

It may be asked, then—why change over at all?

The great expansion made by the Society demanded that the vital information the management needed in order to base its policy must be produced much more speedily than is possible by pen and ink.

We could no longer afford to wait for the key factors that had to be derived from the checking and re-checking of a conglomeration of figures collated from the many sources inseparable from a pen-and-ink system. This work alone created peaks which necessitated overtime and all its attendant evils.



Part of the machine-room showing machines on the "Maybee" high-speed posting trays. The whole layout of this room is designed for convenience: good gangways, reference equipment in accessible places and good lighting

Now: Profit and Loss Figures at Month End

With a mechanized system we are now able to furnish the management with monthly balance-sheets, profit and loss accounts the day after every month end. Also, we are able to forecast our returns and profits for months ahead so accurately that at any time we have a very effective guide to directional management.

On the 1st January, 1937, we were able to publish our balance-sheet for the year ending 31st December, 1936. Obviously this achievement would have been quite impossible by hand methods.

The foregoing results have been obtained by the application of three 2,000 Class National Accounting machines, which were built to our special requirements. We have eliminated counter cash books, etc., and introduced posting slips. We can do three jobs at once; all figure, column, and departmental totals are automatically checked and any information required by the management within an hour or two.

During the month of October last we moved into our new building, and it has been so planned that the accounting is centralized around the banking hall.

Immediately behind the counter are housed approximately 60,000 account

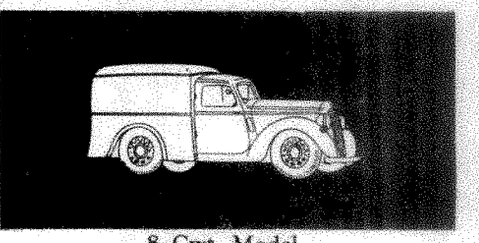
30 years ago

THE FIRST COMMER WAS BUILT...

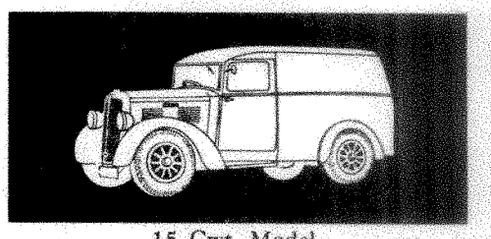
. . . and ever since Commer have been building commercial vehicles, and nothing else! This wealth of specialised experience is behind every Commer vehicle—behind the vehicle you buy.

The new Commers—8 cwt. to 5 tons—although basically the proved models which have earned such an outstanding reputation for reliability, incorporate many new and important features; the range including two entirely new models, a 14 h.p. Utility Vehicle and a 4-5 ton Hydraulic Tipper under 50 cwts. unladen.

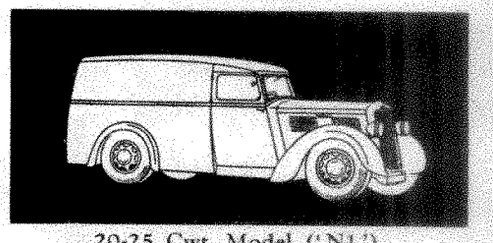
The appearance of all models has been greatly improved; forward control cabs have been entirely redesigned; whilst the value of the 15 cwt. and 20-25 cwt. models is still further enhanced by the introduction of a new and more efficient power unit.



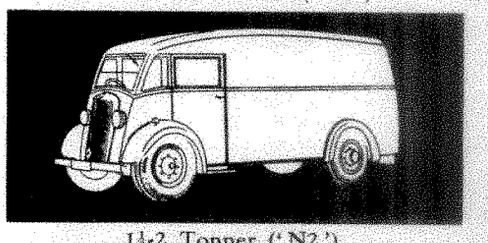
8 Cwt. Model



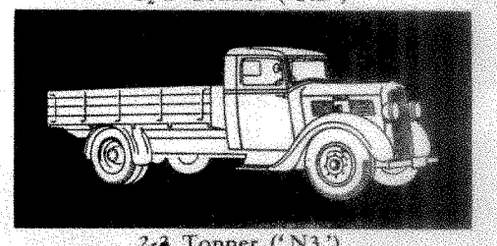
15 Cwt. Model



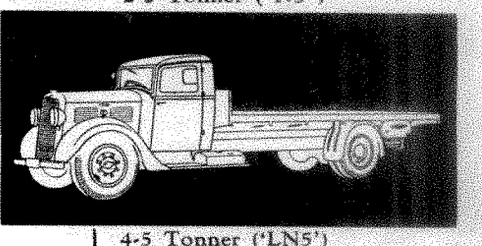
20-25 Cwt. Model ('N1')



1½-2 Tonner ('N2')



2-3 Tonner ('N3')



4-5 Tonner ('LN5')

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Here is a section of the Banking Hall illustrating the machine posted ledgers and indicating how their fire-protection cabinets are used effectively as a counter

cards, covering all our departments. The cards are pulled for posting, and, as some of the departmental roll numbers (members' numbers) are very similar, the cards have been colour-washed on the top left to denote the departments. Further, through the colour-wash, there is one "Paramount" "V" punch-hole on each card, but the punch-hole is in a different position for each department; thus, if a card did happen to be mis-filed, a bridge is formed across the groove of punch-holes, and the card is detected within seconds.

The cards are housed in "Maybee" trays, 1,000 to a tray (which is numbered) and guided numerically to every 20. In some cases the roll numbers jump by hundreds, and when the cards are pulled for posting they have, of course, to be replaced. In order to speed up replacement the cards bear the tray number and also a consecutive number from 1 to 1,000 for each tray, e.g., a roll number may be 54,346, and the consecutive number 25/896.

Although our strong room accommodation is more than ample for our present requirements, we decided to house the ledger trays in fire files, which would be placed in such a position that instant reference could be made either from the banking hall counter or from the adjoining machine room.

It was considered that, if an extremely unlikely case of fire did arise, the transporting of 60 trays, comprising 60,000 accounts, either by way of the lift or by the stairway from the banking hall to the strong rooms, would greatly accentuate any confusion that might arise on such an occasion.

Further, during the ordinary routine of business, each morning the trays would have had to be transported from the strong rooms to the banking hall, and back again at the close of business hours. Thus we should be moving 60,000 accounts backwards and forwards each working day.

In any case, the trays would require a stand or counter on which to rest, so it was decided to make a counter of the fire files.

The "Maybee" trays are housed in fifteen "Cope-Chat" two-drawer fire files. Each file which is desk high, holds four trays (two trays to one drawer). Covering the top of every three fire files there is a beaded lino top which forms an unbroken surface over the length of the three files.

At the beginning of the day the trays are placed on top of the fire files, and instant reference can be made by any member of the accounting department.

By this method we speed up reference, conserve space, and, if anything untoward did happen, the trays can be immediately dropped in the fire files for safety.

Everything, so far as the accounting system is concerned, has been centralized in and around the banking hall. All the ledger cards are within a short distance of the counter, and information can be instantly obtained for a member by moving only a few yards.

The 'Work Flow' is Now Evened Out

The machine room connects up with the banking hall, so that again the ledger cards are within easy reach for pulling for posting.

Formerly, members of, say, the mortgage department who wished to pay their subscription, had to go to a certain section of the counter allocated to that department; a member of the deposit department had to go to the deposit section, and so on. Thus it often happened that one department counter clerk would get snowed under with work, whilst another had practically nothing to do; it depended entirely on chance.

With the abolition of counter cash books and the introduction of the posting slip system, a counter clerk can now attend to members of any department. There is now, therefore, a continuous flow of work instead of spasmodic rushes.

Every phase of our accountancy system, which covers nearly £10,000,000 in assets, has been overhauled. Each unit runs smoothly. The collation of vital facts has been speeded up by weeks. The Society's policy can now be based on absolute facts, which are to hand when required and not, as formerly, partly on fact and partly on surmise.

Our new headquarters provide the maximum of comfort for our staff. There are canteens and kitchens and a well-appointed recreation room.

The air is continually washed and cleaned by an air-conditioning plant, and the staff also enjoy the benefit of scientifically planned illumination.

In concluding this article we believe the speediest way to effect business efficiency is to concentrate on these three major factors: (1) A good staff; (2) the best methods; (3) the soundest products.

o

New 'Self-Serve' Shop Idea For Branded Goods

A SUCCESSFUL self-serve men's wear shop, where customers just walk through and select ready-packed goods, is a sales idea from Canada and might be tried out with success here by manufacturers of branded goods.

The store is in Toronto. Such articles as ties, socks, shirts, pyjamas, braces and so on—all well-advertised brands—are displayed, price-ticketed and packed ready to be taken away. Customers select goods as they walk through. Exit is down a passage past the cash desk. While customers are paying for goods selected their purchases are wrapped together into one parcel and suspended with a carrier handle. The parcel is handed over when the cashier's receipt is produced.

For
MARKETING TRENDS
turn to
Page 22

The store sells everything to clothe a man—even suits. These, of course, have to be tried on and booths are provided. If the measurements are not satisfactory the customer pushes a button and immediately a fitter appears. He makes alterations to the suit on the spot while the customer sits in the booth and reads a newspaper.

Staff needed for this store is cut to two "salesmen". Neither of these handles the goods. They merely wrap into parcels and keep a check on visitors in the store. They see, for example, that customers do not swap an old suit of clothes for a new one, and so on.

In the short time this shop has been operating it has been very successful. All goods sold in it are, of course, branded and advertised products. It is the kind of store that could be run in London and other big cities by a co-operative effort of manufacturers of branded goods.

HOLIDAYS WITH PAY

THE LITTLE MORE — HOW MUCH IT IS

EMPLOYERS who are giving holidays with pay can help their employees to obtain full benefit from their holidays by encouraging the formation of Works Holiday Clubs, through which employees can themselves accumulate additional holiday money.

WIDE practical experience lies behind the advice and assistance which the National Savings Committee is able to offer to employers who wish to introduce for the benefit of their employees, a sound but simple form of Holiday Club **WHICH, IF DESIRED, CAN BE USED TO DEAL WITH THE EMPLOYER'S HOLIDAY PAY ALLOWANCE.**

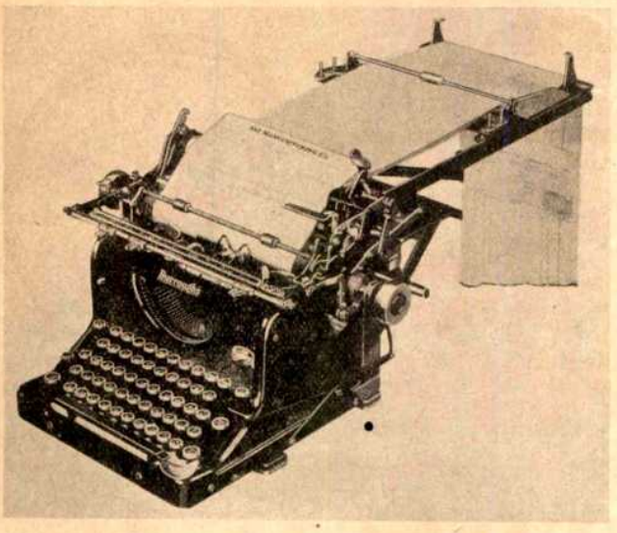
THE National Savings Committee will always be pleased to arrange for one of its representatives to visit a firm with a view to ascertaining on the spot what are the particular requirements, and suggesting ways of meeting them.

EVERY assistance will be given in starting the scheme, including the provision of a speaker to address employees, and the preparation of a special circular letter for distribution. Membership cards, books, etc., are supplied free.

Enquiries should be addressed to the

NATIONAL SAVINGS COMMITTEE *(Dept. B.6.0)* **LONDON . S.W.1**

Time-Saving Ideas from Busy Offices



Left:
All-Electric Operation for Fanfold Machine

This new electric Fanfold Machine—which reduces carbon shifting to one simple motion—has been introduced by Burroughs Adding Machine Ltd.

The functions of any fanfold machine are to type multiple sets of continuous forms and to shift the carbons from a complete set to the next to be written. The carbon shifting usually requires a number of movements, but this new machine has simplified that. When the invoice or other form has been typed, the touch of a motor bar opens the carriage for the removal of the forms and automatically places the carbons in the next set of forms. It is a very fast and easy operation and is fascinating to see demonstrated. The new machine has electrified carriage return, capital shift and space-up, so that all the work except tearing off the completed forms is handled from the keyboard

Helps the Machine Book-keeper

EVERY little thing that makes a routine worker's job easier and reduces fatigue is a worth-while point for every business to study.

Here is an idea used in the office of a well-known company. A circular table, six feet across, with a revolving top is used to carry the ledger trays for a machine book-keeper.

As the operator completes posting an account or a section she simply moves the table round (a finger push will do it) to bring the next tray right to her left hand. The table is kept supplied with trays by a junior. In trays, it will hold about 6,000 accounts at a time.

This turntable takes up but little space, and can always be used as an ordinary table when it is not feeding the machine operator.

In this particular office one operator and one book-keeping machine keep 6,400 accounts posted daily, and, with one assistant, complete all statements in two days.

o

Every Letter Now Gets a Reply

IN a big organization it not infrequently happens that in-coming letters are so written that it is not at all clear from the context which department they are intended for. Such letters are generally "routed" to the two of the departments which the mail distributing clerk *thinks* might be concerned.

If it affects none of these departments the letter is then usually pushed along to "someone else". In this way it probably gets "lost" or at least it lies around unowned.

To overcome this unsatisfactory state and to ensure that *all* letters get proper attention a well-known firm issued the following instruction to every executive:

All letters received by your department but which do not concern you must be returned, at once, by hand, direct to the Secretary's office.

The Secretary then decides what shall be done with any "stray" that reaches, but the point is he *decides*, and something definite is done.

o

Speeds Up Typewriter-Addressing

A LARGE firm using national advertising to offer samples by means of fill-in coupons employed a typist full time to address labels for the sample packages. There was no question of these sample applicants' names being required for a mailing list since the firm does not sell direct. They were all single shots, it was not necessary, therefore, to make addressing machine plates.

Using the labels in rolls the girl averaged 1,300 labels daily. A study of her work showed that she instinctively used punctuation marks, caps and small letters, and all caps for the towns. These changes wasted time, so a special typewriter was made up having no punctuation symbols whatever, no figures other than the numerals (with the 1 and 0 added), and the letter symbols all caps.

After a few hours' practice she raised her output to 1,600, and within two days reached a steady daily output of 2,000 without any more fatigue than that occasioned by the former 1,300.

Don'ts for Secretaries

These injunctions may seem too obvious to need emphasis, yet a Director of a well known firm says that to-day he finds the faults as prevalent as ever

DON'T address a small envelope when, in the body of a letter which your chief has dictated, he says: "documents, etc" . . . or whatever they are . . . "are enclosed . . ." Find out what size envelope is needed to accommodate them.

o

DON'T paper-clip together letter, carbon and envelope when submitting correspondence for signature at the end of the day. Give your chief only the actual letters and the carbons. Keep the envelopes yourself, but make *sure* you subsequently insert the right letter in the right envelope.

o

DON'T butt in with non-urgent questions or matter when your chief is concentrating on some intricate or bothersome job. If you are a real helper you will understand his work, appreciate what he is doing and exercise some diplomacy in approaching him.

DON'T, if your boss is out, leave a message on his desk: "Please ring Mr. Smith". Watch for your boss to come in then tell him: "Mr. Smith rang up to say he would like to speak to you, shall I get him now?"

o

DON'T, without first inquiring at *all* the sources you can think of, worry your chief with questions: "What is So-and-So's address"? "Where shall I find this, that and the other thing?" "What shall I do with this, or what happens to that?" You will increase your value enormously if you relieve him of every possible query of this sort.

o

DON'T, for goodness' sake, sit and twirl your pencil, gaze nonchalantly round the room, draw diagrams on your book, hum tunes or show other signs of impatience and lack of concentration on your work during pauses when your man is a bit stuck with his dictation.

"1938 demands SECTRIC TIMERS in every business" says Mr. Sectric

★ In 1938 be free from timekeeping troubles, and from constant winding and regulating. Install Sectric Clocks and so establish Greenwich time throughout your works, your office, your home. Encourage your staff to follow your example. Long before the year is out you will be pleased you made this move.

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SMITH SECTRIC CLOCKS

* **THE DELHI** (*Top*)
12" dial, 14½" diameter.
Walnut or Mahogany finish 71/6

* **THE PERTH** (*Bottom*)
Height 5½". Width 6½". Depth 2½"
Walnut or Mahogany finish 26/-

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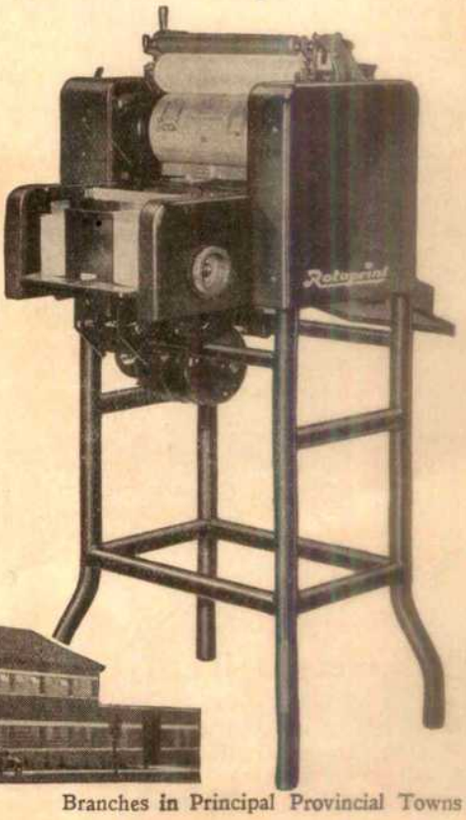

Why should you pay twice as much as you need for your print? One of your own staff can do it in your own organization on the ROTAPRINT, quickly and easily, at 50% of printer's charges. No stencils, no type-setting, no costly blocks, just thin Aluminium *MASTER SHEETS* of all your many printing jobs, such as Stationery and Publicity Literature, from which you can print in the quantities you require at any time.

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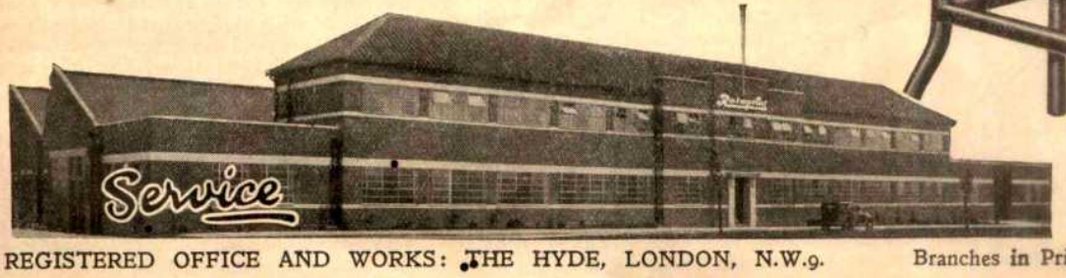


REGISTERED OFFICE AND WORKS: THE HYDE, LONDON, N.W.9.

Branches in Principal Provincial Towns

BUSINESS EQUIPMENT REVIEW

Trouble With Staffs' Cycle Storage?

These 'Cycle Parks' Save Space and Cut Out Maintenance Costs

By a 'BUSINESS' INVESTIGATOR

ONE of the most extensively used vehicles in the world to-day is the bicycle, mainly because it is an economical method of transport and provides means for healthy exercise.

Many industrial concerns are faced with the problem of providing adequate accommodation for cycles during working hours. Indeed, architects now plan for cycle parks in new building lay-outs.

Easy Parking Means Less Lost Time For Firm

For the cycle to be of real value to the employee it must be parked in a position where it is readily accessible. If not, valuable time may be lost in parking cycles after clocking-in to the works premises.

Employees' cycles are as valuable and important to them as are cars to executives. Consequently, in most up-to-date factories and business premises, space is provided for both cycle and car parks.

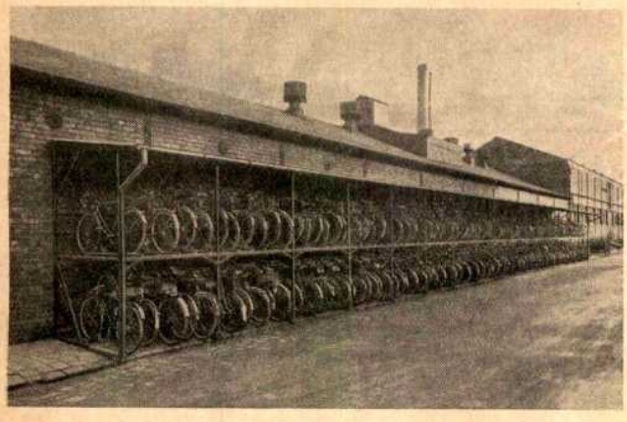
All-Steel 'Parks' Are Strong, Need No Upkeep

When workers first started cycling to their jobs wooden racks, in which the front wheel of the cycle was placed between two wooden battens, were used for cycle storing. This primitive method secured the front of the bicycle but left the back wheel unsupported. Bicycles could fall out of these racks. The battens, too, caused damage to the front-wheel spokes. And as the racks did not stand up to rough usage, repairs and maintenance costs were heavy.

Next came a similar type of rack constructed of steel. This was more robust, and space was saved by raising alternate cycles to enable handlebars to clear each other.

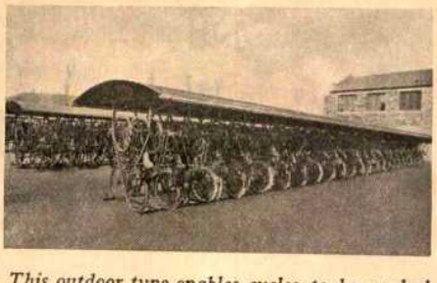
Further advances in cycle park designs have been made by Constructors, Ltd., of Birmingham, whose products I examined last month. The company make various types of patented parks. These provide storage space in an economic and orderly manner and leave every cycle easily accessible.

The "parks" are available for factories, works and offices of any size, from the firm with 10,000 employees to that with 50 or so. They can be erected in any convenient space in a factory yard, to stand by themselves or against a wall, and so on.

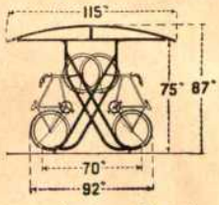


Here is a typical example of compact cycle storage where a wall has been put to good use. This 'park' is at the factory of Callenders Cable & Construction Co. Ltd., Leigh, Lancs. It is obtainable without roofs

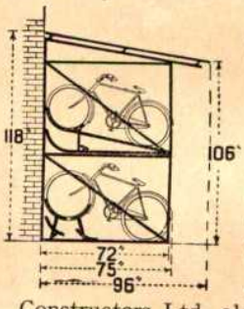
Cycles are parked in a specially designed steel channel. Support is through the medium of the tyres only; thus any possibility of damage to the cycle is eliminated. Structures give complete protection to the parked machines. As parks are constructed throughout with steel, repair and maintenance costs are low. Indeed, since they were first manufactured, about ten years ago, no repairs to any parks in use have been necessary.



This outdoor type enables cycles to be parked at an angle of 60 deg. Economy of space is emphasised by the fact that from centre to centre of adjacent cycles is only six inches



For outdoor use a popular model is the DCPS/A. This is a double-sided type, in which cycles are parked at an angle of 60 deg. Alternate cycles are raised so that handle-bars clear, and the distance from centre to centre of adjacent cycles is only six inches. As cycles are housed in a sloping position, with front wheels overlapping, the width of the park is only 7 ft. 8 in. overall. The park has an arched roof, supported by the cycle channels. No other roof support is needed. For use alongside walls, a similar (CPS/FF) but single-sided model with sloping lean-to roof is economical.



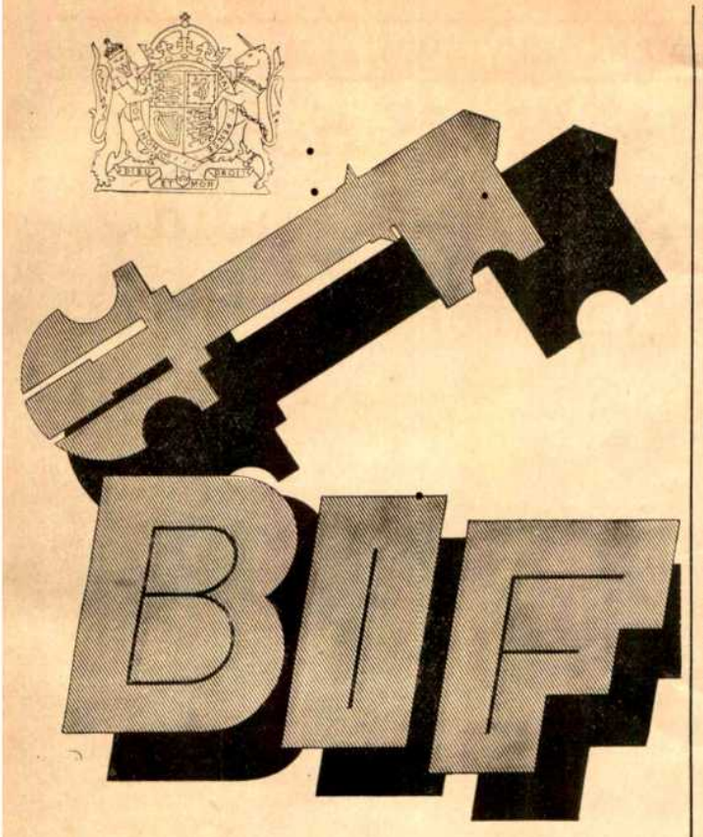
For small sites double-tiered cycle parks are available (TCP/F) in which machines can be stored one above the other. Single- or double-sided parks, with or without roofs, are supplied.

Constructors, Ltd., also have a range of totally enclosed cycle parks. These are primarily for exposed sites. They are designed to take advantage of the supporting and bracing effect of the patented channel section cycle supports. The steelwork frames are arc-welded. Cost of this type is much less than the expense of putting up a building and afterwards installing a cycle park.

Totally enclosed cycle parks are supplied to many specifications, from galvanized roof and walls to brick walls with R.P.M. or asbestos roofs. Types are also obtainable for the parking of motor-cycles.

Incidentally, if you have any problem to do with cycle parking, Constructors, Ltd., have a *Planning Service*, which they offer free of charge. They have been able to solve the problems of many firms.

If you are interested in having on hand complete details and illustrations of the firm's cycle park equipment, write for their catalogue No. 201/3.



The British Industries Fair, the premier national trade fair in the world, is of increasing importance to the buyer. The grouping of trades simplifies comparison of price and quality, saves the buyer's time and promotes his efficiency.

Travel concessions by rail, sea and air. Catalogues of the London and Birmingham Sections available February 14th (1/- each post free) from Department of Overseas Trade, 35 Old Queen Street, London, S.W.1, and Birmingham Chamber of Commerce (Inc.), 95 New Street, Birmingham 2.

BRITISH INDUSTRIES FAIR

February 21st to March 4th, 1938

London (Olympia and Earls Court) 9.30 a.m.—7.30 p.m.
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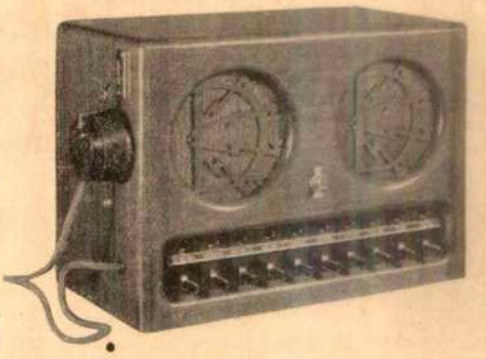

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Marketing TRENDS

(*Continued from page 22*)

Ltd.: " . . . one outstanding need in most businesses is to get the sales manager profit conscious as well as sales-volume conscious." That is the present-time attitude of the boardroom. Sales managers will plan along these lines in 1938.

o

Makers and Sellers To Get Together To Send Up Sales

SUCH policy heralds era of closer co-operation between sales and production staffs. *Balance* is the keynote. Once the factory produced goods that *had* to be sold. In recent years sales departments said: "We want so-and-so, or we can't please customers. Make it." Now the trend is for both departments to get together, plan activities in relation to each other. Sales managers and factory chiefs must confer to *keep a balance*.

By discussing production costs sales managers get to understand why certain lines pay well. That is why one northern firm insists now on its sales managers going into factory costs of new lines—they become profit conscious.

o

Dot-and-Carry One Ideas To Keep Tab On Sales-Profits?

LEADING marketing executives foresee that cost accounting principles used in factory and elsewhere will have to be applied to sales and distribution. The new "profit" trend is in keeping with the idea. Selling expenses, for example, should be the seed for future profit, a conception not generally shared by sales executives or their staff. Moreover, sales managers should know what relation sales have to profit.

There are big marketing possibilities in this new policy. 1938 will see it tested thoroughly.

o

Have You a Problem Set By These Women-Worshipping Display Men?

WHAT are the chances of getting your products selected for display in big shop windows? From a survey made of 400 shops in and around London here are the percentages of windows given to various goods: women's dresses, 14.0; women's underwear, 11.5; household products, 8.5; gloves, hosiery and handbags, 8.0; novelties, 7.5; footwear, 5.0; foodstuffs, 3.5.

Notice the preponderance of display given to women's goods? If you manufacture such products, you have retail display prejudice in your favour. If you don't, you've got to work hard to get a fair share of window space.

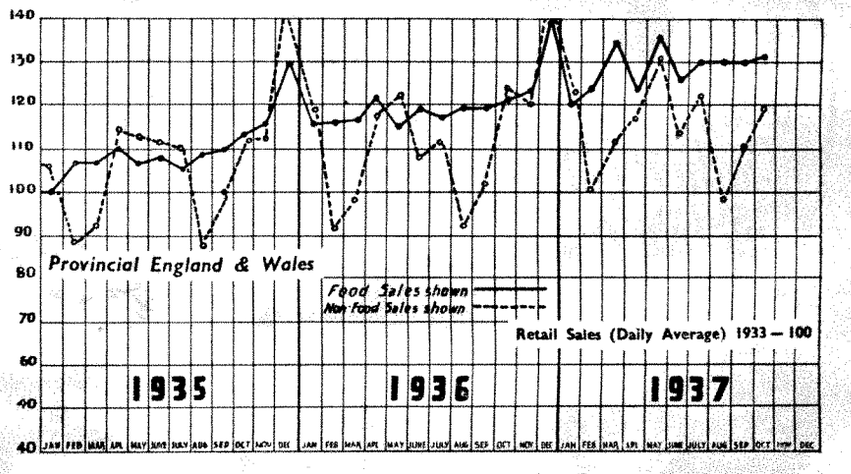
o

This Firm Has Built Sales On Facts, The Best Selling Force

SELLING by facts and not by flowery fiction is accepted as the correct and best-paying method today by many successful manufacturers and retailers. Tests and experience show that salesmen armed with sound knowledge of their products and interesting facts about those products beat a fair quota every time.

One famous linen-manufacturing firm has used "factual" selling with great success. Not only their own salesmen but those of retailers have been instructed in facts about the firm's goods. Indeed, the history of the linen industry has been taught as well as the story of the firm's linen from raw materials to finished product used in the home. Result: Sales have gone steadily up. Now they are to be expanded further by use of films dealing with linen in this factual way.

Other firms have also proved the success of these methods. Have you tried them yet?



HOW TO READ THE CHART

WHICH are the best selling months for food and which for non-food goods in provincial England and Wales? The chart gives the facts. In each year non-food sales are up in March, April, September, October and December; food sales in February, March, August and the last three months of the year.

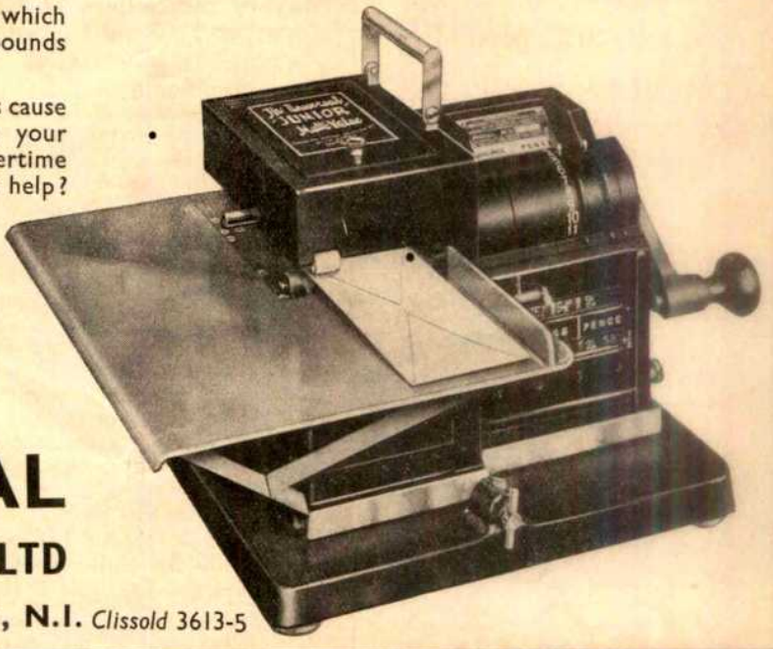
Throughout the three years charted there are fluctuations in sales volume. Sometimes rises are not as steep as expected; often the fall is less than usual. Important variations, these, to the manu-

Have you a check on POSTAL EXPENDITURE?

Are you uneasy about wastage and loss in connection with your postage account —small losses of shillings and pence which in quite a short time are taking pounds out of your profits?

Do you find that heavy mailing-days cause disruption and expense through your mailing-dept. having to work overtime or being supplemented by outside help?

If you have mailing-problems like this you should let us show you how a Universal Franking-machine will aid you. It provides an automatic check on your postal costs, and saves a great deal of time and labour because it franks your mail many times faster than hand-stamping.



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facturer. They mean big or small sales.

So many factors influence volume of retail sales that only major influences can be calculated at the present time. National events, for instance, such as Coronation, turn usual trends topsy-turvy. But that kind of interference can be anticipated. The weather factor is quite a different matter. Bad weather can cause an upset in the type and volume of sales just as effectively as lower wages or increased unemployment.

Weather reports are, therefore, again supplied by D. & K. Bartlett, the long-range weather forecasters, who gave the reports issued with the chart last month.

In 1935, up to May, the weather was normal, but in that month serious frosts occurred after the 12th. Later came snow showers, and the weather did not become warmer until towards the 30th. Result: Food sales kept up well (people eat more in cold weather), and non-food sales declined. Mr. and Mrs. Consumer do not shop any more than is necessary in unpleasant weather.

Freak Weather Sold More Foodstuffs

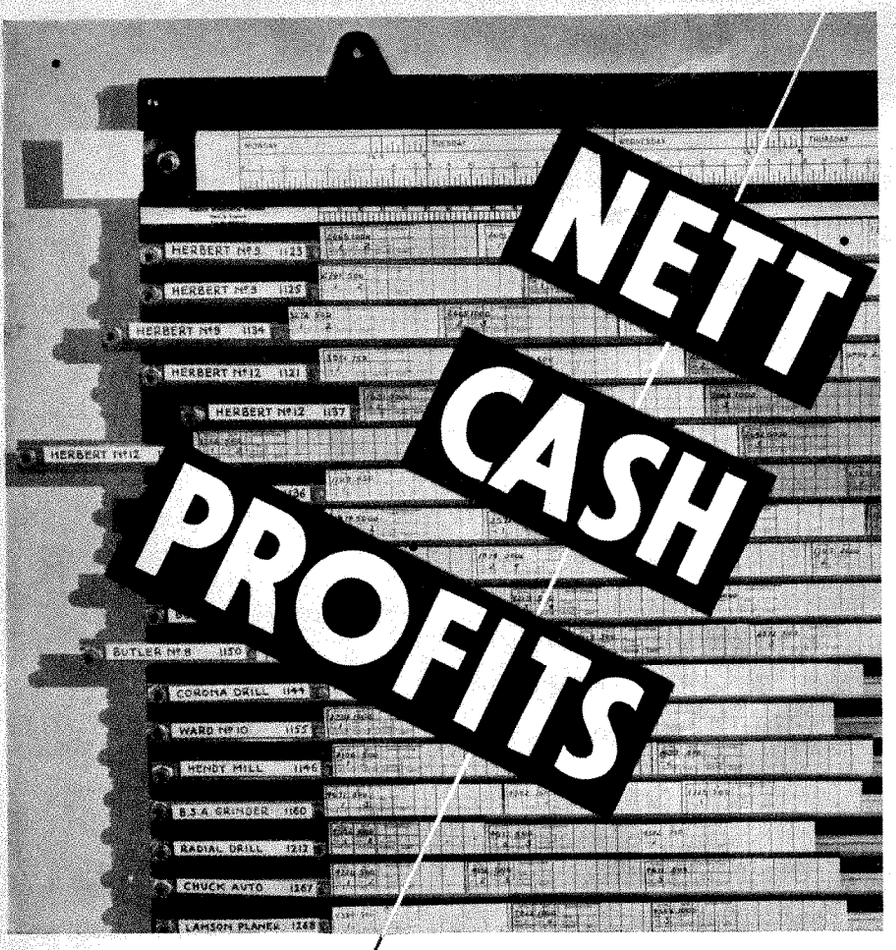
Freak weather continued into June, when snow, frost, gales, heavy rain and floods were sandwiched between two little heat waves and some warm, sunny spells. Conditions kept sales trend in line with that of May except that foodstuffs sold more heavily.

Usually there is a lag in buying non-food products in November. In 1935, however, this did not take place. Why? Largely because (*a*) October started stormy, turned mild so that people would not at first, and did not want to later, go ahead with early winter buying, and (*b*) because November was wet and cold. Sales of heavier clothing, footwear, etc., were stimulated.

First weather highlight of 1936 was the mildness of February (from 18th) and March. This slowed up food sales. But April, being mainly cold, reversed the trend; foodstuffs sold heavily.

In May non-food sales leaped up, stimulated by warm weather. In June they were depressed by a cold period, which, however, pushed up food sales. Look at November non-food sales line. It dips. Why? It was a dull month, with no really cold weather to stimulate winter sales.

March was very good this year for all sales. Easter helped—a sunny though cold Easter. Hence people got about; but they ate more than usual, much more. Then came a mild April; down came food sales. Non-food products continued climbing. People bought spring and early summer goods.



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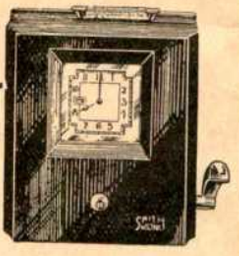

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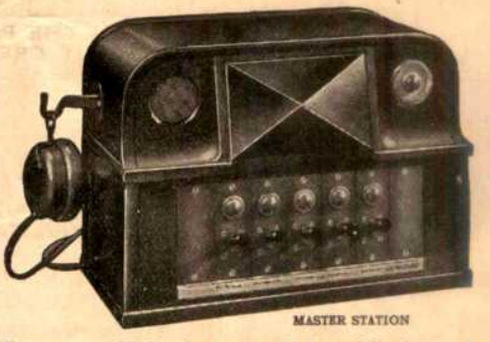

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These Policies
Put This Firm On Top

(*Continued from page* 10)

Dealers have the choice of operating a H.P. or D.P. plan, but they must select either one or the other; they cannot operate both, as this would introduce unnecessary complication with the company's finance house and confusion to the selling personnel.

This Bonus is an Incentive to Dealers

To encourage the dealer to increase his bulk turnover in Jiffy products, an annual bonus scheme has been devised on the following basis:

On net yearly turnover	£100 ...	2½% bonus
,, ,, ,,	£250 ...	5 % ,,
,, ,, ,,	£500 ...	7½% ,,
,, ,, ,,	£750 ...	10 % ,,

In connection with the house-to-house selling by the company's teams, it is interesting to note that while all sales made in this way are made on the dealer's behalf, delivery of the machines is made by the team. The customer is either supplied with the actual machine she has seen demonstrated or, if she prefers an unused machine, this is delivered direct from the van stock.

In this way the retailer is relieved of all trouble and expense of handling and delivering, factors very much to his advantage and an incentive to business.

Washing machines, like all mechanical products in the hands of the general public, need service from time to time. The dealer is relieved of this responsibility, too. All servicing is carried out by the company's mobile teams.

The foregoing is, in brief, the dealer co-ordination scheme which the Jiffy Company inaugurated in October of last year as a direct reversal of their former policy of completely independent trading.

'Approved Dealer' Chain Soon to be Complete

Instead of meeting with the strong opposition which might be expected to be shown to a manufacturer who had previously avoided the trade, the scheme was accepted very readily. The fact that in eight weeks after the scheme's inauguration forty per cent of the full quota of approved dealers aimed at had been secured well proves this point. It is anticipated that the complete chain of dealers will be signed up before the end of April next.

Jiffy do not expect to make any more fundamental changes in their sales policy. The dealer co-ordination plan is considered the settled ideal for current conditions—at least, for as far ahead as can be seen at the moment. Its aim is to get the best out of both direct-to-user contacts *and* selected dealer distribution. And under this arrangement, 1938 is confidently expected to lift the company into a bigger sphere than it has known before, so far as total sales volume is concerned.

The control of sales is under the direction of W. Gerald Roche, who joined Jiffy in April, 1937.

Roche believes strongly in large-scale visual methods of keeping track of his figures, and for this purpose he has devised the recording apparatus which we show in the illustration, page 8.

From daily reports sent in by his teams in the field (via the respective branch managers), Roche's staff adjust the pointers on the panels so that the exact position of sales in relation to quota is shown for each team at all branches throughout the country. This arrangement literally gives Roche finger-tip control of the sales position over the whole of the organization. This is linked up with visible index cards of each approved dealer, providing a daily picture of the activities of each of these, and the progress of each local campaign on their behalf.

Transport Control is One of the Big Problems

Also under Roche's control comes the transport fleet used by the selling teams and the branch managers. To-day this numbers 170 vans and 30 saloon cars. But the management of this fleet, split up as it is into units of from 10 to 20 vehicles and distributed all over the country, is one of Roche's greatest problems.

Control of each individual vehicle of the fleet is vested in the respective branch managers. But branch managers, being primarily interested in sales, are not naturally good transport managers. The most economical planning of mileage according to the type of territory, the taking in of petrol only at points where a contract price has been made by the company, the best utilization of running time, and so on, are cost-saving factors almost impossible to enforce from a head office far removed from the locations of the fleet units. Yet unless these factors *are* effectively controlled, it can be easily realized that the costs of maintaining the better part of 200 vehicles can mount up and assume a dangerous item in overhead costs.

Fleet control is a problem that Roche is working on at the moment. With much increased activity ahead for 1938, a lot therefore depends on the plans he is able to devise in this direction.

The growth of this company in eight years, from a very modest beginning to a country-wide organization, has therefore been almost solely a selling problem.

The various preliminary steps taken in marketing, though they had to be superseded as time went on, were rightly adapted to the company's needs in view of the fact that big issues of capital were not sought.

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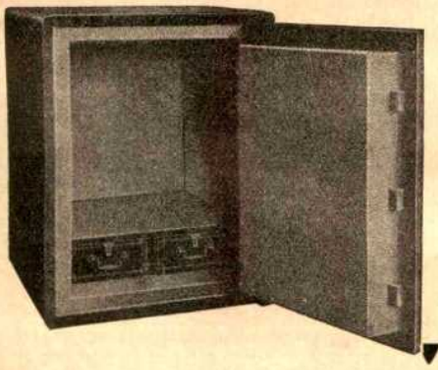

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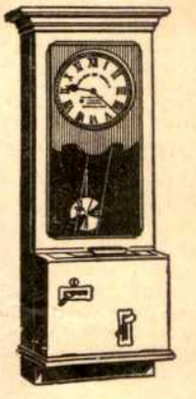

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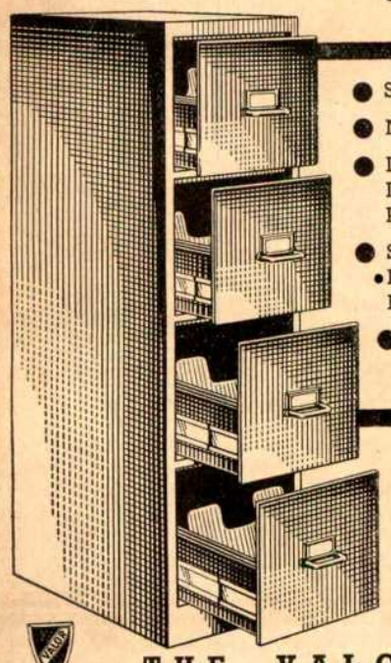

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Buyers to-day infer that the firm which issues pleasing sales literature is more likely to be enterprising and efficient thanthe firm whose literature suggests an unprogressive outlook.

We produce attractive sales literature which pleases our customers and *their* customers. Will you take the common-sense course of seeing what we can do for *you*—by asking for a layout suggestion for your next piece of advertising literature?

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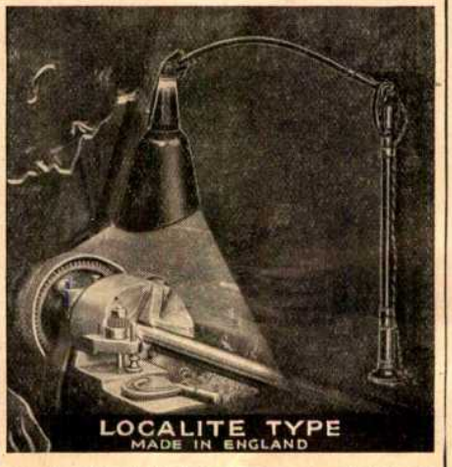

The "Localite" Arm directs a concentrated beam on to the job in hand, from *any angle*. It has instantly adjustable friction joints, and since no light is wasted, the "Localite" lowers maximum kilowatt demand and current consumption. Write for free illustrated list.

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"Localite" fitted with cab tyre flex and vitreous enamelled steel shade, "Q" base and all electrical accessories, ready for use, except for lamp.

20/- each complete

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Phone: Eltham 2121 (5 lines)

Mr. Knowle's original effort could hardly have been directed at any other than a few dealers. Later, when Modern Aids, Ltd., was first formed, the direct-to-user method was effective because the public were not "washer-conscious", they needed the product to be more intimately put before them.

Finally, with the public waking up to the value of washers, plus the activity of competitors, the combination of direct-to-user *and* dealer distribution has proved the ideal method.

Your Retailers Can Become Quick-Change Display Artistes

VARIATION in displays by using a new type of 42-piece display set is being obtained by a Manchester knitwear manufacturer. He has tested the set in a number of shops selling his products and has found sales to increase between 2½ and 7 per cent.

The set is made of cast resin and is available in any combination of five colours. The material is almost unbreakable and impervious to acids, grease, spirits, etc. A set consists of five sets of shelves, eleven tubes of varying lengths and diameters, and four chromium-plated rods of different lengths. All units automatically interlock. There are no clips, brackets or hinges.

One of the big features of the set is that it can be built up in many different ways. A different display can be made for every day of the week. It is this feature that the Manchester manufacturer has found so effective in getting almost continuous display. He uses a limited number of sets and loans them to retailers for a specified period, usually a month. The sets are so easy to build up and dismantle that dealers are encouraged to carry out frequent display changes.

This Heat Process Saves 50 Per Cent In Time

TIME has been cut in half on a moulding process in the foundry of a Middlesbrough firm. The saving has been made by use of gas for mould drying.

By the old "cold box" method, drying took 1¾ hours. Now, with cast-iron pipe moulds, erected vertically in the

TWO ADVERTISING MEN

working together, seek contact with Directors and Executives requiring help in the preparation of Advertising Media. Layouts, Illustrating, Copy Writing, Catalogue Compiling, etc., etc.
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casting shop, the mould is dried by means of an open flame gas burner in less than an hour. Output has been raised by speeding up of the process.

How To Avoid Winter Colds

COLDS and influenza cost Britain at least £50,000,000 a year, a big proportion of which is a direct loss to industry. Much of this loss can be avoided, however, if people follow a few elementary rules for prevention of infection.

A small but interesting book, **"How to Escape Colds and Influenza"** (Leonard Hill, Ltd., 6d.), just published, explains *how* and *why* colds cause so much damage, what is their nature and how people can avoid them at work or at home. A summary of tested preventative methods is given.

The book is authoritative, for it is written (anonymously, of course) by two eminent doctors. It is a work that should be useful in every factory, office, or other business place as a means of reducing absenteeism and impaired health of staff.

When to Generate Your Own Electric Power

(*Continued from page* 18)

often this is an excellent arrangement.

Secondly, overhead costs must be taken into account. Generating plant requires an engine house; it must be insured and even the minimum amount of attention does have to be paid for. Though a skilled engineer may not be required, periodical inspection and advice is necessary and should be allowed for. It should not be necessary to stress the need of a correct allowance for depreciation and interest on capital involved.

As an example (Fig. 1) of actual costs I will take a plant designed to give a continuous load of 120 kw. (say, 120 to 130 h.p.) for normal working hours in a factory. We will assume that even temporary shut-downs are serious and that duplicate plants are installed.

From these figures certain comparisons can be made with the cost of the public supply.

First the cost per unit will work out as follows, assuming an average load of 100 kw. for 50 weeks of 47 hours. Units generated will be:

$$100 \times 50 \times 47 = 235000 \text{ units.}$$

$$\text{Cost per unit} = \frac{235000}{1249 \times 240}$$

$$= \frac{1249 \times 240}{235000} = 1.48\text{d.}$$

I want to emphasize that this is a *maximum* figure, I have allowed for every possible cost. By simply using

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THE desk is beautifully built (finished either Ebony Black or Dark Brown Oak) with heavily chromiumed drawer pulls and underparts. The writing surface measures 54 in. × 27 in. There are six drawers, including a double filing drawer, with automatic locking from the knee space drawer.

Compare the price of this desk with the *usual* cost—the difference will astound you! Never before have we been able to offer such amazing value.

The chairs are ideal for restaurant or hotel use.

The chair to match has a shaped wood back and seat, supported on extra strong tubular frame—heavily chromiumed, resilient and wonderfully comfortable.

This furniture is suitable for office or home; a private study equipped with a desk and a few extra chairs gives a well furnished, modern effect at an extraordinarily low cost. Remember, desk and chair are 3-year guaranteed, and to approved customers we offer **7-days' free trial.** Order a desk and/or chair to-day, carriage free. You risk nothing.

OSDA LTD., *Complete Office Furnishers,*
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- That absolute privacy will be observed?
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The answer is an unqualified YES, but in order to be perfectly satisfied on these points it will pay you to ring:

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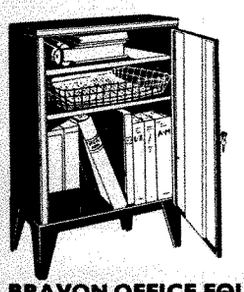

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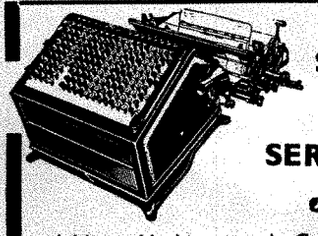

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Write to the
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for particulars of this Business Building Section

only one plant over £250 per annum would be saved reducing the cost to about 1d. per unit.

We can also compare these costs with a public supply on a two-part tariff of £5 per kw. of max. demand plus ½d. per unit. These costs would be about:

	£
Fixed charge—120 × £5	= 600
Unit charge—235000 at ½d.	= 490
Total annual cost	1,090

On these figures therefore there is not much difference between the two methods for this size of plant, and from my experience this is a very fair view of the question. It must be remembered that in my private plant I have provided a more reliable service than the public supply (i.e., if duplicate units are installed) and actual costs for attendance, etc., do, in many cases, work out less than my allowance.

If it is safe to take a longer useful life and to use only one engine the cost will work out as low as 0.75d. per unit but, in my opinion, conditions of industry to-day do not warrant an estimate of more than 12 years actual use.

Larger the Plant: Lower the Unit Cost

As would be expected, the larger the unit the lower the cost per unit, and vice-versa. This variation is not due so much to more economical fuel consumption as to lower proportionate costs for overheads, attendance, etc.

Since actual costs do not seem to indicate any great saving by using private plant as against a public supply with a normal tariff we can ask: what other factors are there?

Considering first the advantages of a private supply we get the facts shown in the panel alongside the illustration.

Final decision, therefore, appears to rest on the possibility of obtaining public supply at a reasonable price. My own advice to manufacturers has always been: *use public supply if it can be obtained at a price of 1d. per unit average cost.* For a figure slightly above this considerations other than cost will affect the decision. At 2d. per unit there is no doubt whatever that generating plant should be installed for loads above 100 h.p.

I should like to anticipate criticism that my costs for private plant are excessive. I have clearly stated that they are *maximum* figures. It is quite true that many plants are running at lower figures, but I still maintain that costs approaching those given by me should be allowed for in order to avoid any disappointment.

The earlier the cost of a plant is written off the more satisfied everyone will be, and in the case of any serious alteration to existing arrangements the debit balance will be less than if a long period were allowed for depreciation.

Finally I would add that from the point of view of reliability, works managers need have no fear that providing good quality suitable plant is installed) breakdowns and stoppages will be frequent. Present-day generating plant—whether steam or oil—will give practically 100 per cent continuous service if properly looked after.

●

Morris 'Equi-load' Road Test

(Continued from page 30)

the new Morris-Commercial 25/30 cwt. model in actual service.

While the fuel consumption test was in progress, we had ample opportunities for observing the excellent road-holding qualities of the new vehicle, being able to negotiate all but the very sharp curves with very little reduction in road speed. Gear changing is simple and all ratios are suited nicely to the engine characteristics, so that one can drive economically on all gears as occasion demands.

When we encountered thick traffic in and around Redhill the machine readily responded to the accelerator when quick get-aways were needed, and its easy manœuvre in tight places enabled us to steal a march on trucks of similar capacity when a less handy vehicle might have started a traffic jam.

Adequate engine power under all conditions enables the driver to maintain very good average speeds when the truck is loaded to capacity, and there should be no difficulty whatever in keeping up with closely timed delivery schedules without having to drive at excessively high speed with resulting detriment to fuel economy.

The model, as a whole, impressed me as a very robust job throughout, built on sound engineering lines and able to stand up well to continuous hard work for long periods.

The chassis is particularly attractive from the viewpoint of easy maintenance, while all details of the bodywork are designed with a very clear conception of operating requirements.

USE THIS COUPON

If you desire information from the Editor or from Advertisers attach this coupon, which should be signed by a responsible executive, to your business letterhead, and post to:—

BUSINESS Service Department, Whitefriars House, Tallis Street, E.C.4.

Please send, without obligation, more information in connection with advertisement (or advertisements) in the January, 1938, issue of BUSINESS numbered below.

Numbers (see Index, page 5).....

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No sign of a break in the wave of Commercial

PROSPERITY

Every indication of continued

EXPANSION

By THOMAS DIXON

EVERY available indication goes to suggest that the big improvement in business that set in a couple of years ago is being fully maintained.

Reports from the great industrial areas of the North tell in graphic terms of the great change that has come over these districts. The great majority of plants in the Steel, Coal, Textile, Engineering and Shipbuilding industries are working to capacity, and vast areas which a few years ago had practically fallen into a state of despair are now humming with activity. In many of these districts the family expenditure during the Christmas season was on a scale for which there is no parallel, and it is a fact of the utmost significance that many savings banks reported last year deposits on a record scale.

Coincident with the revival in trade has come a very considerable overhauling of methods and processes. It is being more and more fully realized that only the latest and most scientific means of production will enable us to hold our place in a world of competitors, and in the opinion of many good judges British Industry in general can now claim to be on a level, in all material particulars, with the most energetic and up-to-date rivals. In this, as in so many other respects, we have been slow starters, but, once started, we have made rapid progress. It is difficult to see how the present growing volume of export business could have been secured except by a general adoption of the best and latest practice in matters of manufacture. It seems safe to assume that the personal efficiency of the great bulk of British workers has never stood higher than it stands to-day.

We, of the Dictaphone Company, believe in the dictating machine simply and solely because it increases the personal and individual efficiency of every user. There is no other reason for its existence comparable to this. True, it saves time and money—always a good argument for any labour-saving device—but that is simply because of the increased power it brings to a man to deal more swiftly and more effectively with his job, to do more work in the time at his disposal. No man is asked to buy Dictaphones on any other basis or until he has satisfied himself on this cardinal point.

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It is convenient because it is always ready for work, never out or ill or engaged when wanted. It is speedy because you can dictate as fast as you please, and your dictation is translated into typed form earlier than by any other method. It is economical because it saves the entire labour of one person—the shorthand writer—when dictation is in progress, and in consequence enables her either to do more actual typing or to devote the time saved to useful work that demands intelligence rather than to the purely mechanical work of note-taking which the machine will do far better.

Don't be a defeatist on the subject of the dictating machine. Don't think—at least until you have fairly investigated the matter—that "the Dictaphone would not be any use to me". Many of the best and most enthusiastic users of the Dictaphone to-day—men whose names are household words in business—have been converted to the Dictaphone from just that frame of mind.

You cannot realize, until you have actually tried it, the many ways in which the Dictaphone will help you. Try it at once. It will cost you nothing and pledge you to nothing to make an experiment.

If you don't like it, don't buy it. But, at any rate, give it a chance: it may, and probably will, help you to an extent you do not realize.

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VOL. LXVIII

BUSINESS

No. 2

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Incorporating "The Journal of Commerce", "Modern Business", "System", "Business Organization and Management"

FEBRUARY, 1938

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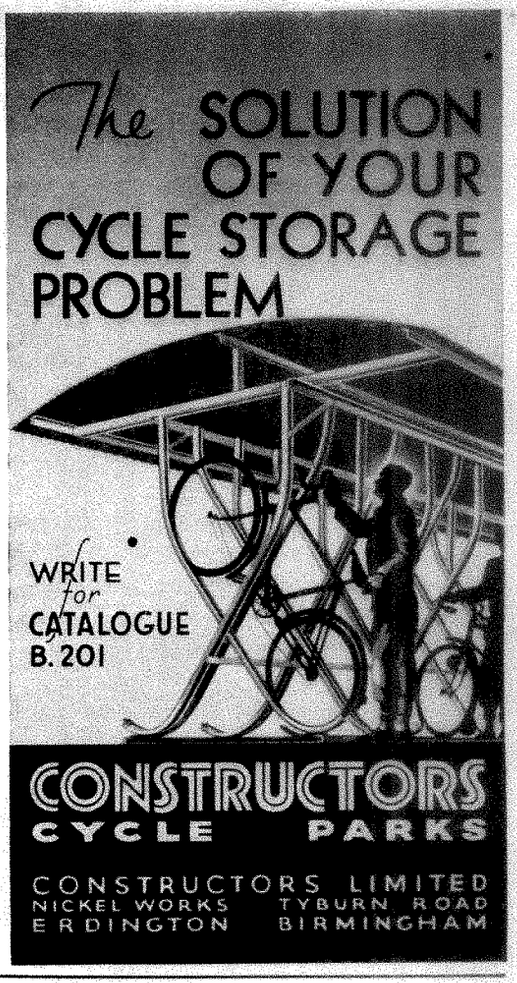
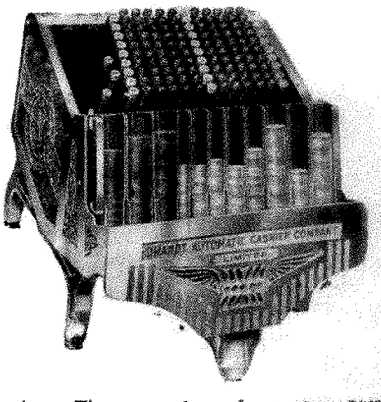


Wages



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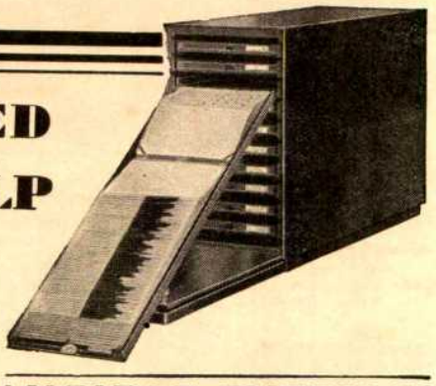

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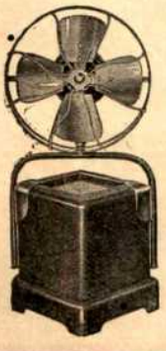

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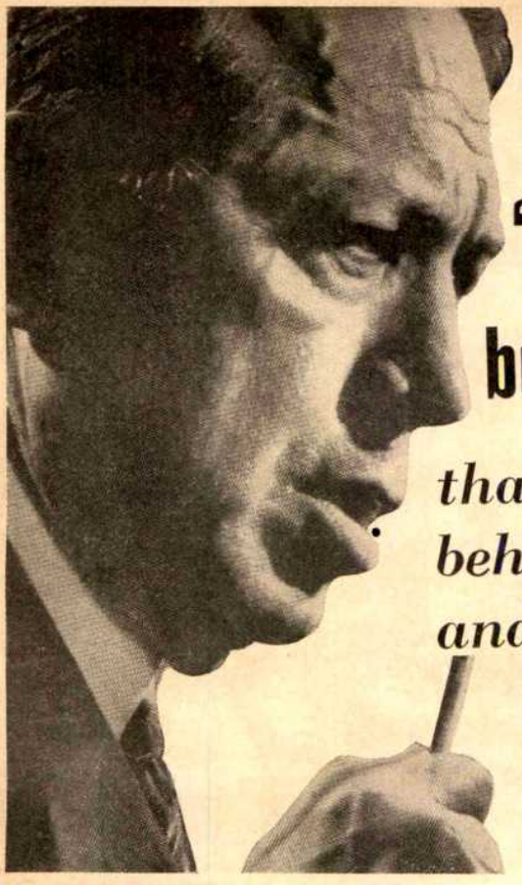

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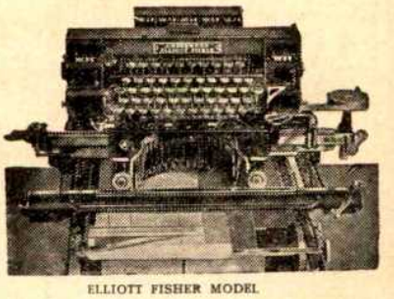

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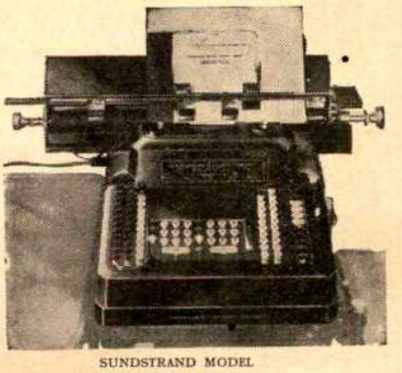

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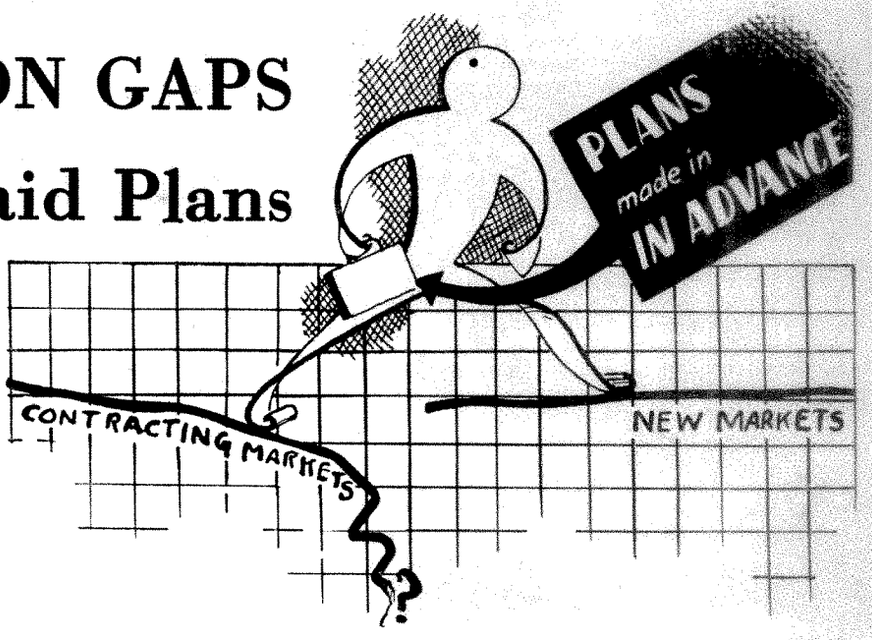


JOHN BEHARRELL

Chairman, W. S. Caines, Ltd., of Plaistow
Managing Director, Hawker & Botwood, Ltd.

says . . . "These seven firms prepared ideas ahead of time. When danger signals showed they were READY with plans that would span the gap between contracting markets and brand new fields."

SLUMP talk is bad talk. Why it should be imagined that markets must necessarily begin to wilt again almost as soon as they reach a peak of fine growth is one of those things for which there seems no explanation.

Maybe that it is an Englishman's inherent modesty, his natural instinct to decry prosperity to his neighbour that sets gradually in motion this talk about things being "not so good."

But it is nevertheless a fact that sufficient of this casual negative talk spreads a condition that sooner or later crystallizes into firm belief.

Then the newspapers get busy. Triple headlined articles by official and unofficial "experts" attack this belief and try to disperse it. But they fail. The very emphasis they use somehow or other defeats the object.

Listen to the comments in the train or anywhere where business men forgather: "When old So-and-So comes out with an article like that," they say, citing some well-known economist's or minister's latest protestations that we are sitting prettier than ever on top of world trade, "you can bet your life there's something wrong somewhere."

And so the popular Press, unwittingly maybe, does its little bit in the cause of fomenting the slump idea.

More Influence Could be Exercised Over Markets

But news distribution apart: to a far greater extent than is generally thought the condition of markets is in the business man's own hands.

If more long-range prospecting was done, more planning ahead for the creation of new products and new methods as alternatives to existing lines that are successful in the immediate present a lot would be done to prevent temporary recessional periods (most people say *slumps*) from occurring at all.

Comparatively speaking, it is rare to find a manufacturer with a change of product, a different sales policy or some other expedient ready for launching the moment his existing business shows really definite signs of falling off.

What he usually does is to develop an increasingly long face, go about among his friends and business associates declaring that trade is going to pot and gradually to convince himself, and others, that the industrial situation is becoming serious.

Not being totally paralysed, of course, he then starts to look around for new openings. In due course he generally finds something: a way to alter his product to give it a fresh appeal; a new line of goods altogether; or a different marketing policy.

This Set-Back in Time is Suicidal

But all this hunting around and adjustment of routine in his offices and factory takes weeks, probably months. And by the time he eventually gets going his unpreparedness has cost him a lot of money and has administered a

hefty jolt to his goodwill. He finds that a tremendous amount of lost ground has to be regained before he can get back where he was.

This is not exaggerating the situation. It has happened over and over again. And is in the process of happening right now.

If manufacturers would be more prepared for these changing conditions, would switch over quickly and quietly with alternative campaigns planned in advance and would *cut out the grousing about slumps,* industry generally would take on a more adaptable and even flow. Recessions, real or imaginary, would not appear to anything like the extent. Business would be more buoyant; and buoyancy itself induces optimism, momentum and confidence.

It is not suggested that every single manufacturer can prepare, in advance, a perfectly cut-and-dried plan and keep it on the shelf for emergencies. But it *is* possible to look ahead and to take reasonable precautions.

Turned Greatest Competitor Into Greatest Ally

ONE of the quickest and most astute plans of this kind was made some years ago by a famous battery manufacturer.

He saw the spreading of the electrical grid system across the country. In view of the fact that a big percentage of this man's business was the manufacture of storage batteries for small independent lighting plants he might have got a lot of sympathy from his friends by declaring that the grid spelt business extinction for him.

But this manufacturer did not bleat at all. While the grid was still in its early stages he looked ahead and foresaw that, even when completed, the grid system would have faults. He thereupon switched the whole of his marketing policy to offer emergency battery sets as safeguards against grid break-downs!

Business houses, hospitals, institutions, department stores, cinemas, theatres, hotels, country estates all became his prospects from a new angle. He practically doubled his storage battery business. Instead of suffering a slump at the hands of the grid this manufacturer turned the grid into his greatest ally.

That was the effective bridging of what *would* have been a slump for that manufacturer. True, the threatened slump was not a purely economic one; it was a matter of being superseded by a competitive product. But the example illustrates the policy of foresight and quick adaptability that I mean. It was a *planned* extrication from a dangerous situation.

Unprofitable Sideline Becomes Front-Line Product

COMING right on to present-day conditions, I can give an example of how, by planning ahead, another manufacturer manœuvred himself beautifully over an economic trade setback that would otherwise have given him a nasty buffeting.

A certain Midlands manufacturer of wood products for builders' merchants had for a good long time been doing a roaring business, thanks to the building boom.

But this man was not lulled into idle dreams by big immediate profits. He noticed that, intermixed with his almost mass production business, was a certain amount of special work for wooden constructional stuff in offices and business houses generally. A few specialized men were kept at work on it.

Looking carefully into this small and not very profitable side of the business the manufacturer saw that his men were making quite a lot of desks, shelving, cabinets, and so on of special sizes for special purposes: types of office furniture that could not be bought from firms dealing in standard lines of office equipment.

Many manufacturers doing well on other and more straightforward woodwork might have considered this sort of special order stuff just a nuisance. Maybe some of them would have jettisoned it.

But our Midland friend looked further ahead. "What will happen," he said, "when the building boom eases up? What about all the new plant I have put in and the staff I have trained? How shall I keep busy?"

He therefore set about examining in detail exactly what designs of desks, shelves, cabinets, etc., his men were making to special order.

Having "researched" into the work for several years back he discovered that out of the hundreds of designs and specifications built to, a number of unique and efficient designs could be drawn up as standard.

"Why not then," said this manufacturer, "get out a series of standard designs of this office equipment stuff to which I can switch over the works if my builders' merchants' market closes up on me?"

The idea was a good one. He worked out production schedules in detail, made specimen models, had catalogues printed and even engaged a salesman to make contacts with the prospective market.

To cut the story short the building boom *did* ease up, as everybody knows. But this manufacturer was not left with any idle plant and capable staff to lay off.

Instead, he put his office furniture into production—by this time he had already got the feel of his markets so he knew exactly where he stood.

To-day his firm is still hard at work. His balance sheets still make good reading for those concerned. He has bridged over the recession.

Specialized Plant, Building, Equipment and Highly Trained Staff . . . .

it not only costs money but involves infinite planning to shape these factors into a smooth-running production unit. Yet recession of a market, however temporary, and this finely balanced organization soon rockets up into the red as a staggering expense. It is vital therefore to plan alternative objectives towards which the work of such a sensitive unit can be directed BEFORE the danger point arrives

THEY MUST BE KEPT *BUSY*

'Fashion' and 'Novelty' Take Sag Out of Car Sales

ONE of the industries said to be feeling the draught of market contraction to-day is the motor-car manufacturing business.

You cannot suddenly switch over a great car works to make foot-warmers or walking-sticks, but it is significant to note that while the bulk of the popular price car makers complain of sales being down, two famous makes in the popular class are still selling well.

There must be a reason for this continued turnover of the lucky two. There is: and it is not luck, it is foresight and planning on the part of the manufacturers.

This Question Kills Complacency — Starts Action

THE moment the first of a new model comes off his assembly line the managing director of a famous firm we all know, never sits down and *meditates* on the excellence in his new creation. Instead, he *thinks*; thinks of the future. "What," he asks himself, "is going to render this product out of date?"

From that moment he becomes busy—anticipating: forestalling his competitors: making plans for *whatever* might be likely to crop up and affect his markets.

In one case it is a popular "ten" that has been designed to embody just those little niceties that give it a "fashion" vogue as well as fine mechanical performance, and that has been marketed under a policy that has a tendency to feminine appeal.

A clever piece of anticipation that. Feminine influence to keep up the sales momentum at a time when it might otherwise have slowed up.

The other case is also a popular "ten," introduced at the last Show, but, so much in advance of its contemporaries in design and *economy* of performance that, despite the slump experience of others, this car shows no falling off in sales.

That just shows what a new type product—if it is sufficiently new—will do in the way of keeping up demand.

This car, revolutionary in frame, body design, weight ratio, roominess, appearance, springing and, above all running costs, was planned to be ready for the market at the psychologically correct moment. Had the management of this firm waited until a trade recession *forced* such a new design it would have missed the boat entirely. It would have been set back two years. As it is, the company's next balance sheet will prove the wisdom of planning ahead to be *ready* with something new.

Another Sideline Comes Forward as Mainstay

A CASE occurred recently where a textile firm bridged the gap of falling markets by means of government contracts.

This firm, making women's dress goods, has a large factory employing about 1,500 people. It also has a subsidiary factory, a smaller one, run for special purposes.

Some years ago, when the prosperity wave started, this firm specialized in women's dress fabrics and built up a large business. The management, however, was wise. It knew that the semi-fashion textile market was a tricky one, always capable of springing surprises on the best forecasting experts.

To guard against being caught, therefore, the management planned to run its smaller subsidiary factory on standardized materials for government contracts. One of the executives made it his whole-time job to secure these contracts and to maintain a good liaison with the proper officials.

While the dress goods business was going well no great pressure was put on securing government contracts. But, and here is an important point, the small factory was kept well staffed and well equipped and facilities for expansion were provided in the shape of spare bays in the main factory, which was near by.

Some months ago demand in the dress goods market began to fall off. At once greater concentration was directed towards securing bigger contracts from the government. The "second line" factory was called upon to take the strain.

At that time, too, the Government re-armament programme was launched. And as a general re-armament scheme covers a good many more items than mere weapons of offence, the contracts were immediately forthcoming.

Such a favourable factor as re-armament was of course a coincidence, but this does not detract from my point. The textile firm had a *plan*; it was prepared in advance.

The result was a completely successful bridging over of the gap caused by the falling off of one particular market. In fact with Government work now in hand, plus a still quite good volume of dress fabrics, this firm now has even more work in hand than at any time in its history.

It Pays to Look Ahead for 'Trouble'

AND there are many other examples that could be quoted here, by intelligently *planning ahead*; in other words, by *looking for trouble*, firms can save themselves a very great deal of the expense and anxiety caused by temporary market contraction.

There is a radio firm that had ready a plan for making inter-office communication systems and electric clocks when the radio industry felt a set-back.

A firm making nothing but high-grade and expensive toilet preparations had complete plans ready to market by the million, through the chain stores and bazaars, a line of its products put up in appropriately small packages under an entirely different brand name.

When the time came this scheme proved a veritable life-saver to the firm concerned.

More of these gap-spanning schemes for new markets, and less talk about slumps and hoodoos of that sort, would be to the enormous benefit not only to the individual manufacturers displaying such foresight but also to Britain's industry as a whole.

●

Met Rising Costs Without Raising Prices

Standard Motors Saved £20,000 from Advertising Appropriation Without Sacrificing Advertising Volume

TO raise selling prices is the last resort which a progressive manufacturer wants to use. The managements of live concerns put into practice every adjustment and efficiency measure they can devise to offset the rises in material costs while keeping selling prices level.

The Standard Motor Co., Ltd., last year made use of a very neat plan to hold their prices down while at the same time contributing to meet the rising costs of raw materials.

At the time the Standards had in force a scheme whereby the Company and the dealers stood 50-50 of the cost of dealer advertising. The amount allocated to this form of publicity was £1 per car—of which the Company paid half.

In June the Company called representatives of their distributors and dealers together and put it to them that either the retail price of cars must go up or some other means must be found to meet the Company's rising costs. They asked the trade: "Which will you do: sell the cars at higher prices, or stand the whole of your dealer advertising, thus scrapping the 50-50 scheme?"

This bold offer met with an equally sporting response from the trade, who agreed to shoulder the Company's share and thus scrap the 50-50 scheme.

By this move the Company, on the output of cars, saved £20,000 on its advertising appropriation, and this *without any reduction in the total amount spent on advertising Standard cars.*

The Press, therefore, lost nothing; the public was spared a price increase; the dealers shouldered the burden.

●

In selling, a sound sales idea will produce more with an ordinary sales force than a group of star salesmen working without an idea.—*Robert R. Updegraff.*

The Month's NEWS in Management Trends

By The Editors

Plus-Child Subsidies as Labour Stabilizer

A SIGNIFICANT event last month was the declaration by Pilkington Bros, Ltd., famous glassmakers, to supplement the wages of all employees with families of more than three children under school age.

Pilkingtons will pay five shillings a week for a family of four children, ten shillings a week for five children, and so on.

The firm has about 10,000 employees all told; of these about 300 families, having in all 500 children in excess of the first three, will benefit by the scheme. The cost to Pilkingtons will probably be in the neighbourhood of £50,000 a year.

SUCH a scheme is not new. In Germany, France, Australia and New Zealand many arrangements of a similar kind are in force. And in England the staff of the London School of Economics has for some time benefited from a scheme of this nature.

IN an industrial plant the principle of allowances is an arrangement that conveniently meets any objections that might be raised by trade unions in respect of straight wage increases, while at the same time it assists the most necessitous employees to meet the rising cost of living.

Looked at from a managerial standpoint, the factor that emerges strongly is the effect that such a financial leg-up will have as a labour stabilizer.

Every employer to-day has the problem, not only of finding and training workers for skilled and semi-skilled jobs, but of *keeping* them when trained. One of the surest ways of holding trained men, family men particularly, is to make conditions so that they can *afford* to stay. To-day, if a good man does not get worth-while terms with one employer it is very easy for him to get them from another. Labour turnover just now tends to be high.

£50,000 may sound a heavy extra burden for Pilkingtons to carry; but this amount has been estimated to represent only from .3 per cent to .6 per cent of the total wages bill. Not an excessive burden to a live firm able to offset it by efficient, economical planning throughout offices and works.

BUT no scheme ever conceived, however altruistic, was without its critics. The trade unions say of the family allowance plan: (1) that, should depression overtake industry, employers would naturally retain only those men with the smallest families, and (2) that unemployed men with large families would stand precious little chance of getting jobs at all.

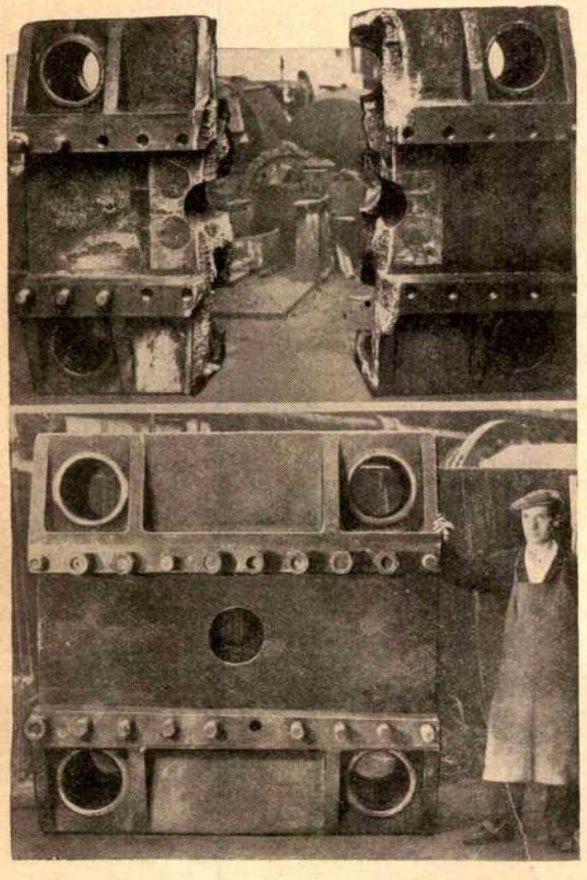
We cannot here debate points of ethics. It is not our job either to agree that such possibilities are real dangers or to denounce the spirit of suspicion and semi-hostility that all too often retards honest endeavour towards higher ideals.

AN executive of Pilkington Bros., Ltd., wished us to announce that they will be glad to give to the management of any other firm interested in this policy of child allowances all the details they can in regard to the working of the scheme as they find it. Address any communication on the subject to the company's head office, St. Helens, Lancashire.

For
The TREND of Business
this month see the
New and Enlarged Feature
The HOME MARKETS
beginning on page 40

The World's Biggest Welding Repair Saved:

£1,500 in cash and six months' delay on a £250,000 contract



IN one of Britain's largest cable works two of the great hydraulic presses used for extruding the lead sheathing in heavy high tension electric cables broke down. A crack developed in the head of one press and a few days later the head of another split in two.

Reserve heads for these presses had already been on order four months but delivery was as far off as ever. Meanwhile, the breakdown was holding up work on a £250,000 contract.

Welding was therefore decided upon. Barimar Ltd. were given the job, and one of the completed heads is seen below. These two repairs saved the cable company at least six months delay on their £250,000 contract and saved £1,500 in cash on the cost of new heads. As a point of interest, each head weighs 15 tons; the breaks occurred where the metal is from 3 to 5 inches thick, and the repairs took over a ton of welding metal.

There's Room in Industry for this New Job

WE have just made the acquaintance of a man in a brand new kind of executive post. No official title has yet been given him, but, in effect, he does the factory "chaser's" job in a much more exalted sphere and, of course, at a much higher salary.

A well-known engineering firm has created this new post in an attempt to ease the situation caused by the acute shortage of raw materials.

The man for this high-power "chaser" job had to possess distinctive qualities. He had to be really representative of the *management* of his firm and to embody this quality in a friendly personality and an inherent tactfulness in handling difficult situations. He had to be a quick

(*Continued on page* 50)

How to Plan *COMBINE Organization* For

1. Increased Nett Profits
2. Wider *REAL* Economies
3. Control without Friction
4. Maintaining Enthusiasm and Loyalty of the Staffs

THE financial and legal merger of a group of separate companies is a simple routine matter compared with the subsequent task of achieving administrative and managerial unification.

The latter is absolutely essential if the combine is to live up to the results projected as the reason for the amalgamation. Failure to create this essential condition has brought about more combine failures than has any other cause.

By L. URWICK, O.B.E., M.C., M.A., F.I.I.A.
Chairman: Urwick, Orr and Partners Ltd.
Specialists in Organization and Management

THE previous article in this series (*"How Balanced Control Insures Profits,"* BUSINESS *for December, 1937, page 13*) dealt with the difficulties of securing "balanced" management in a business undertaking. These difficulties are much increased in a business that is not a single enterprise but a combination or merger of previously independent concerns.

The combining of businesses into larger units has made great progress since the War. Internationally, the principle of amalgamation received official blessing with the resolutions on Rationalization of the World Economic Conference of 1927.

The Results of Combination Are Often Disappointing

The idea of eliminating some of the disadvantages of cut-price competition by combination has won widespread approval, but the practical applications of this idea have been less satisfactory. been invited on the certified net profits of the combining companies—net profits which showed over a period of past years an ample return on the proposed capital of the combine. But, in fact, the results of combined operation have been disappointing, to say the least of it.

Financial Unification is NOT Administrative Unification

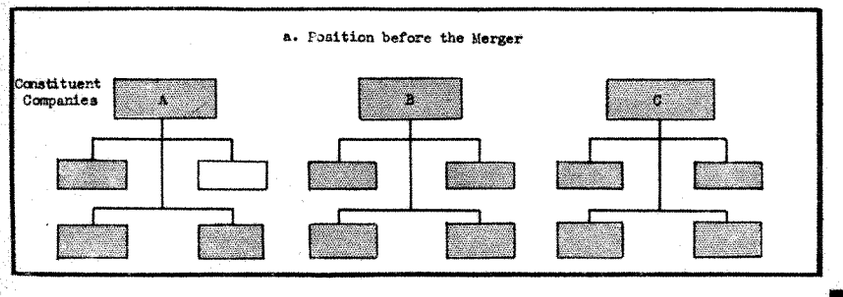
For this there are a number of reasons. But, underlying them all, is the simple fact that ownership, or financial unification, are *not* the same things as administrative and managerial unification.

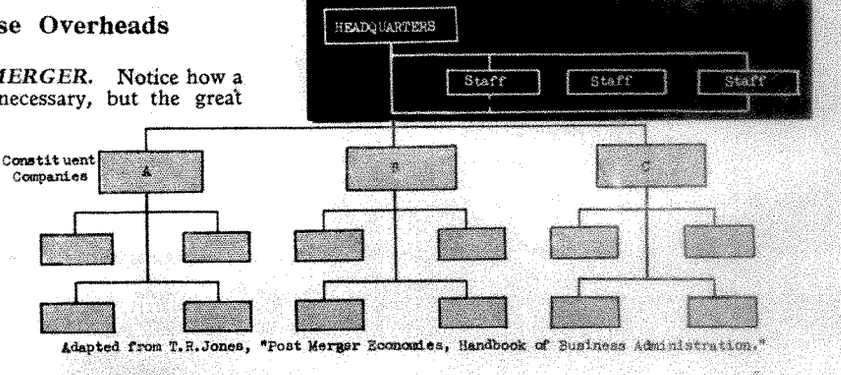
There is many a Board of Directors which controls 100 per cent of the ordinary shares of some business, and which can dismiss any employee of that business at short notice. It owns the business; it has financial control. But it has little control of profitability. The day-to-day management is in the hands of salaried officials who may or may not appreciate the full implications of the Board's policy and, where they appreciate it, may or may not be organized to give full effect to it.

Thus, it does not necessarily follow that, because a number of previously independent businesses combine from the legal or financial point of view, they will have been combined from the administrative and managerial point of view. Very much the reverse.

May Have Detrimental Effect On Staffs

The announcement of the merger to the staffs concerned may have given rise to apprehension and suspicion that jeopardizes the cohesion and balance of the companies considered as independent units. There is thus a definite loss of effectiveness as compared with the situation when the companies were independent. This loss can be made good only in so far as the enthusiasm and





How Mergers Sometimes Increase Overheads

Diagram on the Right shows *POSITION AFTER MERGER.* Notice how a centralized headquarters is introduced. This is necessary, but the great danger to guard against is the tendency of this centralized factor to develop into a bureaucracy, to become an uneconomic expense, and so to jeopardize the very objects for which the merger was designed

Adapted from T.R.Jones, "Post Merger Economies, Handbook of Business Administration."

The history of many business combinations, in this and other countries, has been chequered: even monotonously unfortunate. Public subscription has

initiative of the staffs concerned are enlisted for the combination as a new entity.

This question of *morale* is of fundamental importance, but it rarely receives the attention that it merits. It is too readily taken for granted that employees will transfer their loyalty to the idea of the new combine, and too little positive effort is directed to securing that they *do* so.

Managing a Combine Differs from Managing a Single Business

If the economic advantages planned when the combination took place are to be realized, much more is necessary.

Managing a business composed of three, five, ten or fifty previously independent companies is a task differing completely in character, and in the methods which should be adopted, from the task of managing any one of the former units. The whole organization of the new group should be examined and may have to be partly or even wholly recast in the light of the new situation created by the merger.

The personalities and qualifications required for the higher managerial posts are again different from those appropriate to any one of the component units. The work cannot be regarded as complete until the staffs of the constituent units have been welded into a new whole. This involves a complex of new duties and relationships, to be carried out with enthusiasm, without friction, and understood by all.

Combines Vary Infinitely in Their Circumstances

It is a task about which it is impossible to lay down hard-and-fast rules because combinations differ almost infinitely in every respect. The motive underlying the decision to combine, the degree of legal control over the different units, the degree of operating control advisable or possible, vary in any one case all the way from a "gentlemen's agreement" to complete consolidation, and from mere reporting to a head office to rigid centralization.

The historical background of any two combinations is seldom the same. One develops from a parent company, a second is floated by a financial house, a third is the result of collaboration between competitors of relatively equal size, and so on.

Centralization v. Decentralization Is The Main Issue

From the management standpoint the central issue, however it may be expressed, is usually the question of centralization versus decentralization. Too much control from headquarters is apt to make the combination rigid and unwieldy, to prove destructive of initiative in the constituent units. On the other hand, without some exercise of central authority the economic advantages contemplated in forming the combine will be lost. Indeed, in many cases a substantial increased overhead expense builds up without any corresponding economy in the operation of the constituent companies or groups. How this happens is illustrated in the diagram.

An inquiry into the history of some twenty large combinations in the United States revealed an almost rhythmical alternation of administrative policy in this matter. These changes of policy occurred, irrespective of the principle adopted when the combination was formed. Those combinations which had started by leaving almost all the authority and initiative to their constituent companies, found themselves sooner or later losing money. A "strong man" was brought in to "pull the combine together". Excessive centralization, with its accompanying penalties, followed. There was a reaction towards decentralization, and so on. Those combinations which started with a policy of highly centralized control followed a precisely similar course, but with the curves reversed.

The main reasons for this uncertainty are two.

Formal Organization Of Greater Importance In Combines

The individual company, unless it is of the largest size, is usually still susceptible to face-to-face leadership. The personal qualities of those at the top compensate in large measure for a lack of formal organization. But, the larger the company grows, the greater is the need for a correct structure founded on recognized principles. In the case of combinations, this need is particularly acute.

On the other hand, those at the top are usually drawn from the principals of the former independent companies. They are men whose training and experience have not enforced a recognition of the need for formal organization and practice in applying the principles to different situations.

Different Functions Demand Different Degrees of Centralization

Where, however, there is recognition of the need for studying organization there is often a tendency to think of centralization and decentralization as opposing principles. The one policy or the other is embraced *as a whole*. Insufficient attention is given to analysis of the matters which, in the circumstances, can be dealt with more conveniently centrally or locally, as the case may be. Yet the experience of large-scale undertakings, other than business, armies for instance, certainly suggests that for almost every different function the degree of authority exercised by subordinate management, as opposed to headquarters, should also differ. Experience with successful business combinations suggests a similar view.

In every business combination financial control tends to be more centralized than the management of production. It may be convenient to unify purchasing, but not selling—design, but not personnel management, and so on.

Acute Problems of Personalities And 'Politics' Arise

The early stages of any combination are almost invariably accompanied by acute personal problems. If a large parent company expands and acquires control over others the managers of the companies thus acquired are usually apprehensive as to the effect of a change of masters. Where previous competitors come together by agreement, individuals are quite properly anxious to avoid personal friction which would embarrass their association. Sometimes they are so "nice" about each other's feelings that effective management of the combination as such is lacking altogether.

In almost all cases the actual process of financial and legal combination is one of prolonged, delicate negotiation. While this is proceeding the organization and management of the new unit which is in course of creation are not considered seriously. Bargains are struck by which various "key" personalities are given positions on the Board of the new company or salaried managerial appointments, without close examination of their fitness for such posts. Where a single powerful individual acquires a complex of new interests these interests are not always logically related to one another from the standpoint of operating convenience. The new organization is created around the personality of the individual concerned and, in his absence, lacks cohesion.

Detached Judgment is of Vital Importance

For all these reasons ensuring "balanced" and profitable management of a large combination is one of the most difficult tasks in business. It is a task in which the detachment of the outside specialist can be particularly helpful. Being unassociated with any of the constituent companies, he is in a position to give those responsible for the combination as a whole an impartial view, based solely on the interests of the new company as such.

Accustomed to think in terms of the principles of organization structure, he can avoid the complexes of "politics" and personalities which so often hinder clear thinking in the administration of combinations.

Because the issues involved are so often political and personal, affecting the work and prestige of individuals formerly in independent control of their own companies, this use of the consultant is not at present very widely recognized.

From cases which have come within the writer's experience it is, however, a direction in which the specialist in organization can do more to restore an awkward situation at less cost than in any other. If the top management structure of a combination is established on the right lines very large economies may be secured.

Impartial Assessment of Management is Even More Important Than Impartial Valuation Of Assets

There is no question that had competent outside advice been available many of the disappointments and dramatic losses which have been incurred, and are still being incurred, in the early stages of business combinations would have been avoided.

The principle has already been admitted. Where it is a question of evaluating the assets of companies which it is proposed to combine the impartial assessment of an outside accountant or auditor is regarded as essential. Skilled and impartial assessment are even more essential in welding together the staffs and managerial procedure. Until this administrative unification is accomplished successfully the results anticipated from combination are likely to remain illusory.

Find Out *WHY* Your Employees Leave

Firms must expect a certain movement of staff each year, but *every* trained employee who leaves involves that concern in a load (it varies in extent) of *extra* cost. So long, however, as the yearly labour turnover remains 6-9 per cent among male staff and 17-20 per cent among female staff it can be accepted as satisfactory. Higher percentages than these are a Danger Signal calling for full investigation, but . . .

By Finding out exactly WHY your workers leave you will be able to remove many of the causes . . .

AND SO REDUCE YOUR COSTS

ALMOST every business employer to-day finds it difficult to secure good employees of *any* kind. Skilled factory workers are at a premium; in a great many big industrial centres female clerical workers, too, are just as hard to obtain, and juniors for training seem abnormally scarce.

In this situation, therefore, one of the main objectives of every manager is to hold on to those employees he has got; in other words, to keep his labour turnover down to the lowest possible figure.

A high labour turnover is an expensive condition to suffer at any time, due to the constant petty disorganizations of work which it causes. But when your work-people are on the "here to-day and gone to-morrow" basis and you have at the same time great difficulty in getting replacements, then the situation is infinitely worse.

Do You Know ACCURATELY Your Labour Turnover?

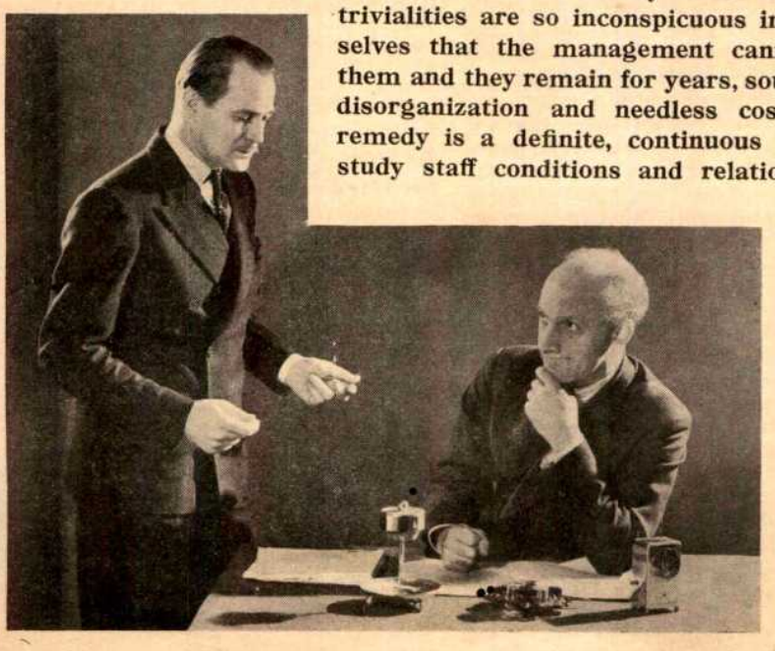
In an address, "Staff Grievances", given at the Business Efficiency Exhibition in September last, Mrs. W. Raphael, B.Sc., of the National Institute of Industrial Psychology, gave it as her experience that it was very rare to find in any firm that the labour turnover* among men employees was less than 6-9 per cent, and among women less than 17-20 per cent. "These", she said, "were quite good and satisfactory figures.

"While it is expected therefore that a certain number of employees must be lost to every firm every year, anything over the above proportion is an indication that something is wrong. If the figures reach or exceed 15 and 25 per cent respectively there is something *seriously* wrong.

"I think it is true to say that the management in a very great number of businesses do not know what their labour turnover is, and certainly they do not look into the causes of it.

"As a matter of fact it is not at all unusual to find firms with a labour turnover averaging as high as 50 per cent. Indeed, I can point to firms within my experience where there exists a labour turnover of 100 per cent, and more.

The most prolific causes of staff discontent are the little pin-pricks that irritate the human sensibilities. Generally these irksome trivialities are so inconspicuous in themselves that the management cannot see them and they remain for years, sources of disorganization and needless cost. The remedy is a definite, continuous plan to study staff conditions and relationships.



Difficulties are Often Hidden from Controlling Executives

"How, then, can you investigate? How can a firm tell what is wrong? It is often more difficult for the managers than for anyone else to find out the trouble in a firm. They are too close to operations.

"Generally, the staff themselves are loath to complain to the management; and naturally the departmental heads are not too ready to admit discontent among their rank and file, even if they know about it. They want everybody to get an impression that their department is contented.

"It is very, very difficult, often, for the management really to know what *is* the feeling in the firm unless they go out to find what is the matter. Only last week, I was speaking to the office

*Labour turnover is the proportion of staff leaving every year expressed as a percentage of the total staff.

manager of a big office employing two thousand people, one of the best managed offices, I should think, in the country.

"We had been doing an investigation there of staff grievances and we found that trouble had arisen from working overtime without notice. There had been a lot of it going on. Overtime without notice is hard on one's private life, even though, as in this office, the practice had been unavoidable.

"The office manager commented: 'Well, why didn't the staff come to me about it?' But people at the top do not realize the hesitation of staff going to see them. In a small office everybody is more intimate, but in a big office there is much more reluctance 'to go and see the boss'.

"Nevertheless, it is definitely the management's job to overcome this difficulty.

"One way of getting to know staff feeling is for the general manager (or other responsible executive, according to the construction of the firm) to go in for the 'open door' policy; to have a fixed time when *anybody* can call in and see him.

"In many firms the very opposite policy is in force. Staff are not allowed to come except through their department head. Of course, the head of a business must always support his department head.

"I am not saying that he should jump the responsibility or authority, but for all that, every member of the staff should have the right of access to some senior person, to be able to go beyond first rank supervision to give any views they have.

"It is a good thing in a big business to arrange for annual interviews, especially perhaps with the junior workers, at the time of annual increases. But definitely, each employee, from the office-boy to the managing clerk, should be interviewed at a definite time in the year so that they know when they can bring matters forward. This is successfully done in many big firms.

"Through the 'suggestion scheme', too, staff can put forward their views; and this plan, if properly carried out, is a very good way by which management can keep its finger on the pulse of rank-and-file affairs.

(*Continued on page* 29)

Cash Savings

Made In These Consumers' Electricity Bills

BUSINESS Consultant rearranged these users' tariffs in such a way that they benefited from a lower scale of charges

It may be possible to rearrange YOURS

IN recent issues of BUSINESS we announced an Advisory Service on all problems of Lighting and the employment of electricity generally.

Here are the beneficial results secured by three firms that have availed themselves of our Consultant's services:—

1. A retail store spending £1,200 a year on electric light made a rearrangement of meters costing £9 and thereby qualified for an alternative tariff from the electrical supply company.

   Under the new rate of charging, consumption of the same amount of current was reduced to £911 a year—***a saving of £289 a year.***

The fee—as it always is—was half the first year's saving.

2. An industrial consumer was using steam for heating and also for certain manufacturing processes. Electricity was also being used for power and lighting. By making all the services electrical the purchasing power of the factory for current was so increased that much more favourable tariffs were possible.

   Result: ***a saving of over £600 a year*** in running costs, apart from many reductions in upkeep costs.

   Capital expenditure for plant alterations to all-electric service: £900.

Another instance of savings which has come to hand as we write, but of which we have not yet received full particulars is:—

3. A large wholesale grocery concern for whom, at their wharf premises, a new scale tariff was arranged—***saving about £300 a year.***

Out of £2,250,000 paid annually by industry in compensation to employees for accidents, £650,000 (nearly a third) of this cost is attributable to BAD LIGHTING . . .

From a Report by the Chief Inspector of Factories

In the same firm's City offices a new scale tariff will ***save £139 a year.***

It will be noticed that none of these economies was obtained by selling to the consumer mere electric fittings. Our Consultant does not work that way. He is quite independent of electrical fittings manufacturers. He understands and advises on the more economical and effective employment of electricity as a whole in the fields of lighting, heating, ventilating, and power.

Readers wishing to take advantage of this advisory service should note that, while fees for actual work done are fifty per cent of the first year's proved savings, the initial consultation is free and without obligation. The only other charge is out-of-pocket expenses where our Consultant has to travel to an inquirer who is more than 10 miles from Charing Cross.

Address your inquiries to The Editor, BUSINESS, Whitefriars House, Tallis Street, London, E.C.4.

Sports Results Over Firm's Broadcast System

Cuts Out Wasted Time

WHEN one of our correspondents was visiting the Penn Electrical Co., of Gosham, Indiana, U.S.A., in the autumn of last year he heard the phone switchboard operator announce the result of a famous football match over the firm's internal broadcasting system.

Asked his view as to the policy of thus officially mixing sport and business, an executive of Penn said he considered it the very best way to cut down the amount of time inevitably wasted when a nationally famous sporting event was on.

This particular football match, he said, is as important an event to our rank and file as the cup-tie or the Derby is to your people at home. Almost everybody has his little stake on the result. Before we started to announce the result officially an enormous amount of time was wasted in the factory by people surreptitiously trying to get papers or private phone calls to find out the result. People who succeeded somehow in getting information in this way were besieged by hundreds of others who also wanted to be in on the news. We now get the whole matter over and done with in about ten seconds.

You can't possibly divert people's natural interest in big sports events, but if they know they will be officially supplied with the result the moment it is known nobody wastes the firm's time devising his own ways and means of getting information. We have definitely found that in a factory of some 2,000 workers this plan cuts out an enormous amount of wasted time.

Planning a SMALL Factory for BIG FACTORY Efficiency

From an interview with

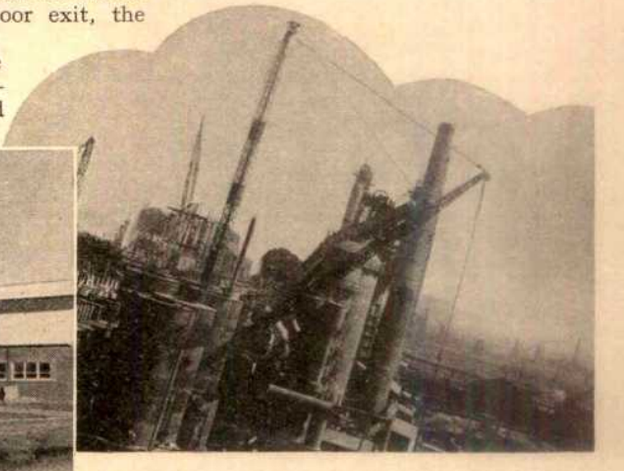
J. A. RUSHWORTH

Managing Director, J. A. Rushworth, Ltd., Wythenshawe Knitting Mills, near Manchester

THERE are times when the small manufacturer can show to big industry points about planning for efficient organization. To-day's worship of vast production figures, enormous plant and armies of workers numbering thousands tends, however, to turn all eyes on the big firm as the only well-spring of up-to-date business thought, planning and efficiency.

In no field is this trend more evident than in that of factory building. Yet while it is true that big and wealthy firms can and do put their best thought into factory layout and construction, there is no reason why the small manufacturer should not achieve equally efficient results. They do, in fact.

A first-rate example of all-round planning is to be found at this Wythenshawe factory of knitwear manufacturers. Mr. J. A. Rushworth, managing director, had the factory built to his own design. It was, he told me, based on two aims: (1) to enable all work to be done in the easiest and most efficient manner; (2) to take care of the comfort and well-being of the staff.



Higher Production—Lower Costs

Scientific organization and equipment is NOT a monopoly of big business. To-day, the design and every item of equipment in the small modern factory can be planned, just as in the big factory, to give the highest possible standard of efficient and speedy output; the greatest possible factor of comfort and convenience to staff at the lowest economic figure of actual cost

These two aims, of course, overlapped in many instances. For example, the layout of the plant is such that will cut out all unnecessary movement of people and goods. While this saves time, and therefore money, it also saves the staff useless movements.

The Direction of Work Flow is Always Forward

The factory is so constructed and the plant laid out that every movement of materials from the raw state to the finished goods is a step forward.

The office is in the front centre of the building. To the right is the double-door entrance for raw materials. From this "inward goods" door the manufacturing processes start and go forward step by step down the right-hand side of the factory. At the end of the building the goods have reached a semi-manufactured stage. They then cross the central open lane, that runs the length of the factory, and start an upward and finishing journey on the left-hand side. Finally, packed and ready for dispatch, the goods are loaded on trucks at a double-door exit, the "goods outward" door.

Thus, throughout, the circular flow of production is maintained and progression of work is uninterrupted and always in a forward direction.

This Window Gives Office-to-Factory Contact

In showing me around his factory, Mr. Rushworth pointed out a number of simple but very effective ideas which help to maintain unity between all departments.

Immediately inside the main entrance to the building is a quite warm waiting-hall. To the right is the general office; to the left a show-room for the firm's goods.

Entrance to the factory by this approach is effected through the office. A door leads from the office to the open lane in the centre of the factory, but there is no need for either factory or office workers to use this door. A window serves the purpose of maintaining the necessary close contact between the two sections of the business. Instructions and information are issued to or received from the factory via this window. This eliminates disturbance to workers in either section that usually occurs when people pass in and out of departments.

A similar idea is used for the issuing of wound wool to the knitting machine department. The yarn comes, as I have said, through the inward goods door

straight to the department where it is weighed, checked and sorted. It is then wound.

Now this department has to handle big and varied quantities of yarns. Unless it was clearly separated from the other departments and was organized to check out supplies to the machines, confusion might quickly arise. The department is, therefore, enclosed by walls of steel wire-netting and issues of material and other contacts with the other factory departments is made via a window.

Machines' Output Timed On Relative Basis

The batteries of automatic knitting machines comes next, then the hand knitting machines.

Mr. Rushworth told me of an interesting bit of organization here. The automatic machines are kept operating day and night. This enables the firm to give full and constant employment to all the finishing departments. At the same time, the continuous running of the machines to give an even output all the year keeps production costs at their lowest for this department. Thus, the cost of idle machines is eliminated by this method of balancing the output against the capacity of the rest of the organization.

When the knitwear comes from the machines a check is made against given standards. The knitted material is weighed, measured and passed for stitching. Discrepancies of a fraction of an inch—or an ounce—are, therefore, observed at the earliest possible moment. Any chance of loss through over-weight or length is eliminated. The check also works both ways and guards against shortage of weight and length.

The knitwear is next passed to the cutting tables, thence to the overlocking department, where a number is attached to every garment. Of course, every order has a number—so has the customer. All waste from cutting and trimming goes into barrels placed by the workers—wool waste into one, cotton waste into another. This waste is sold as a by-product.

Shaped Seats, Shadowless Lighting Reduce Fatigue

Apart from the efficiency of this small factory from a production viewpoint, there is plenty of evidence of care and attention given the workers. The girls who are seated at their work—and all the staff except the machine-hands—have been supplied with a special type of chair. Shaped seats, foot-rests and movable backs are features of these chairs. They are designed to make sitting a real comfort, no matter how long employees have to sit.

"The girls like them," Mr. Rushworth said. "They have told me that the chairs do lessen fatigue."

Another feature is the shadowless lighting. Whether at close work on the finishing tables or attending machines, none of the staff feel any eyestrain. An even and adequate distribution of light over all working surfaces has eliminated this danger. The whole factory is, in fact, floodlit without the least bit of glare. It is another attention to comfort and efficiency which is appreciated by the staff.

> **"Any works executive who permits man-power to be expended on the lifting and carrying of materials when mechanical handling could be employed for this purpose is fostering an expensive waste of production-energy, and time."**
>
> *C. W. HANBURY,*
> *Head of a Large Engineering Concern*

Other evidence I noticed concerning staff comfort was the arrangement of lavatories, cloakrooms and the canteen. Men's and women's lavatories, one on each side, have been placed beside the works. There is no need for the staff to trudge a long way, go out into the cold or to lose more than a minimum amount of time in this matter.

Cloakrooms are accessible by entrance doors opening straight on the works. Thus, once more, no time is lost in walking corridors and travelling unnecessary distances.

A Good Canteen Service is Available

One of Mr. Rushworth's aims at staff comfort was to provide a large and comfortable canteen room. Here, at the start, hot meals were served at cost price at midday. The firm found, however, that the staff preferred to stick to the old Lancashire habit of bringing their own lunches, so the hot meal idea was dropped. Instead, hot water for making tea is provided and a gas cooker is available for those who wish to heat their food.

Another up-to-date feature to do with staff welfare is a ten-minute break at ten o'clock each morning. This rest pause has become a popular feature with the girls, especially as an allowance is made for those working on piece rates.

Risk of Fire is Practically Eliminated

Finally, one or two other factory features are worth mentioning. The packing and dispatch department is enclosed by steel network similar to that of the wool winding department. The reasons for so doing are also similar.

Such highly inflammable articles as boxes are kept in a special fireproof room under the main office. Two entrances, one on the inward goods door side and the other into the dispatch department, makes the storage and withdrawal for use of the boxes a simple matter. Further, the complete fireproofing of this room beneath the offices gives additional safety from fire to the offices.

In actual fact, the factory is very nearly fireproof throughout, as it is a concrete and brick structure.

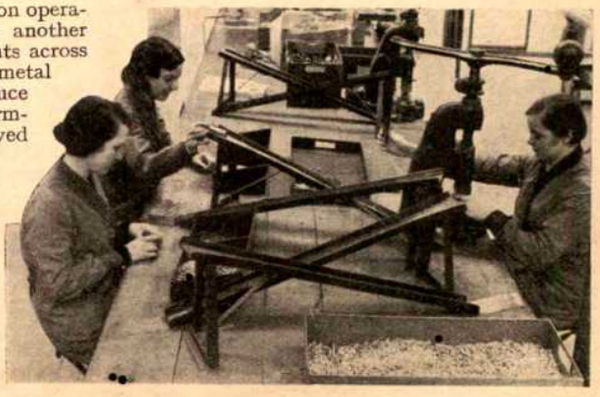
Efficiency and economy go hand-in-hand even in the job of heating the building. One boiler is used to steam heat factory and offices.

Although, as I have pointed out, shadowless lighting is a feature, under normal daylight conditions artificial lighting is not needed. Natural lighting from roof and from wall windows falls directly on the work-benches and machines.

The neat and tidy appearance of the factory is enhanced by the staff wearing a standard type of overalls. These are kept laundered by the firm. Foremen and forewomen wear a distinct type of overall. All the staff have their number sewn on the left shoulder of their overalls. These two small points have their uses. At any time the foremen or any of the staff can be found without difficulty by messengers who would otherwise waste their own and the staff's time. Further, as each person has his or her own overall, the tendency is for all concerned to take more care of the garment.

CHUTES BANISH ARM-STRETCHING FATIGUE

WHERE mass production operatives sit facing one another and have to pass components across a bench these small metal chutes were devised to reduce the fatigue of repeated arm-stretching. A check-up proved that this simple plan raised output in this section by 15 per cent. This picture was taken in one of Britain's biggest radio factories, but it is a time-saving and fatigue-saving idea that could be just as effectively used by any concern, large or small, engaged in this kind of assembly work.



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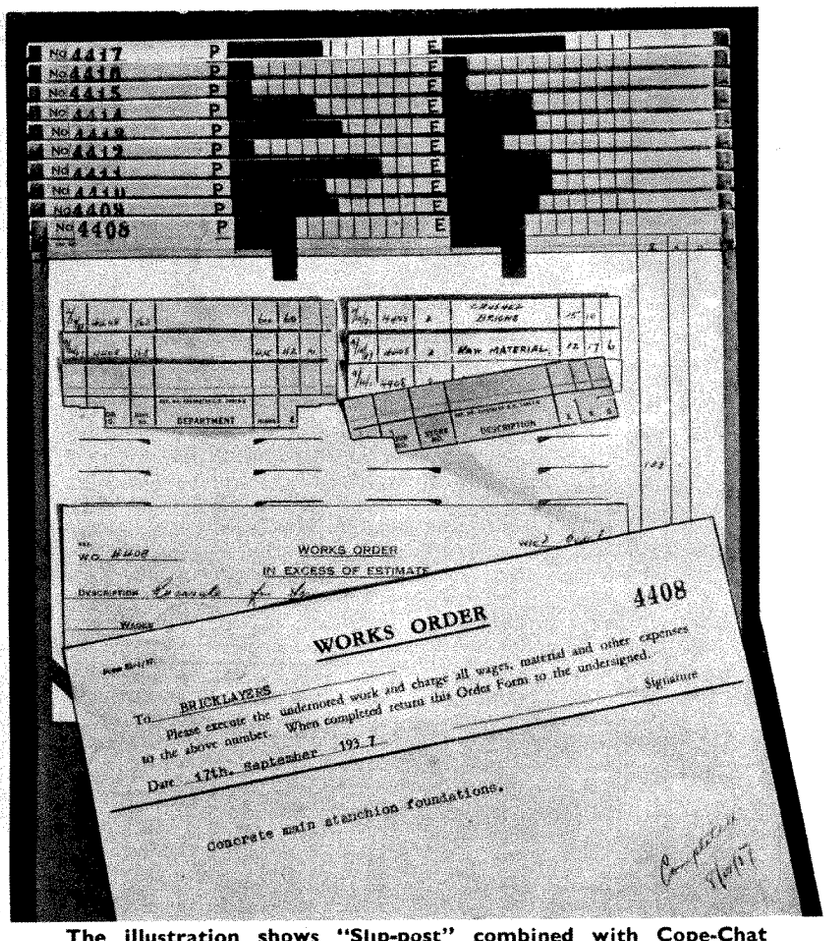

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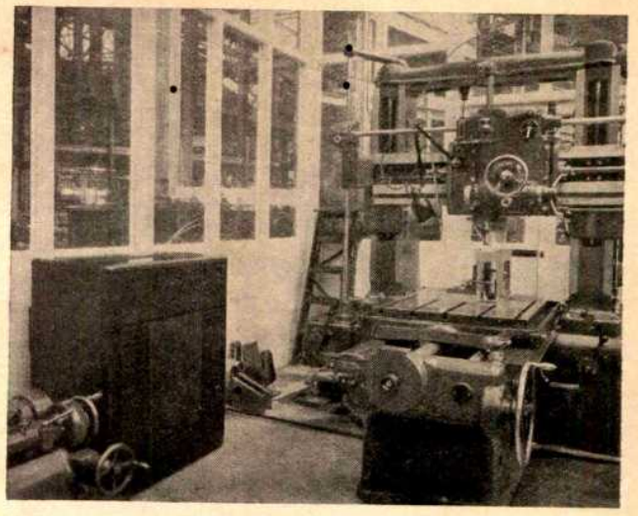
BRANCHES THROUGHOUT THE PROVINCES

Is Your Factory *In Line* with the New Act?

By
D. R. WILSON, C.B.E.
H.M. Chief Inspector of Factories



WITH Part VI (Employment of Women and Young Persons), I come to the hardest part of my task.

These clauses are so involved and intricate that a complete explanation of their significance would mean not one, but a series of addresses. However, I must do my best, and I had better start with a comparison of what is the present law in respect of hours of work with the future law. In so doing, I am going to deal mainly with weekly hours of work, without attempting to elucidate subsidiary matters, such as the hours a day within which employment is permitted, and so on.

The present requirements may perhaps be summarized as follows:

(1) No legal restriction is placed on the hours of employment of men over 18.
(2) The present permitted hours of work for women and young persons under 18 are 60 hours per week in ordinary, and 55½ hours per week in textile factories.
(3) Employment beyond these limits (or what is known as legal overtime) is allowed for women only in certain specified processes, subject to both daily, weekly, and yearly maxima.

These requirements apply generally, but certain latitude is allowed for special industries and processes.

Now I come to the new requirements, which still do not affect men over 18. Here I must categorize the group known as women and young persons still further. I start (in rather a cowardly way) with the simplest case, that of young persons *under* sixteen. For this class the standard maximum is 44 hours per week, and though this is postponed for a year, the Secretary of State may in certain circumstances allow an extension as to 48 hours per week. Nothing further (e.g., in the way of overtime) is allowed for this class.

My next group is *women and young persons under* 18, *but over* 16. For this group, what I may call the standard hours are 48 hours per week, but overtime is allowed (generally and not only in specified industries) to the extent of 100 hours per year, subject again to restrictions as to daily and weekly maxima.

Covered last month *(page 13)*:

(1) Health: space per person, lighting, medical supervision, first-aid.
(2) Safety: accident prevention for machinery, explosions, gases, fires, electric shock, plant breakages, falling objects, etc.
(3) Welfare: drinking water, washing, seating, first-aid equipment.
(4) Special health, safety, welfare provisions: removing injurious dusts, banning underground workshops, limiting weights lifted by young persons, use of screens, goggles, etc.
(5) Notification of accidents and disease.

This month:

(*a*) Employment of women and young persons; hours, conditions of work.
(*b*) Premises not strictly factories, i.e., electrical stations, docks, warehouses, etc.
(*c*) Penalties for offences under the Act and legal proceedings.

My last category is women only. For them a further 50 hours a year (making in all 150 hours per year) can be allowed in special well-defined circumstances.

But the foregoing bare outline is only half the story, for numerous other powers are conferred on the Secretary of State. He can, for instance, prohibit or reduce the amount of overtime to be worked by young persons on grounds of risk to health, and he can modify (in agreement with an industry) the amount of overtime to be worked generally.

Finally, he can change the assessment of overtime from reference to the factory (every day on which any person works overtime ordinarily counts towards the total of 100 hours) to reference to the individual (so that each worker is separately counted), but if so the number of permitted hours is reduced from 100 to 75 for women and 50 for young persons.

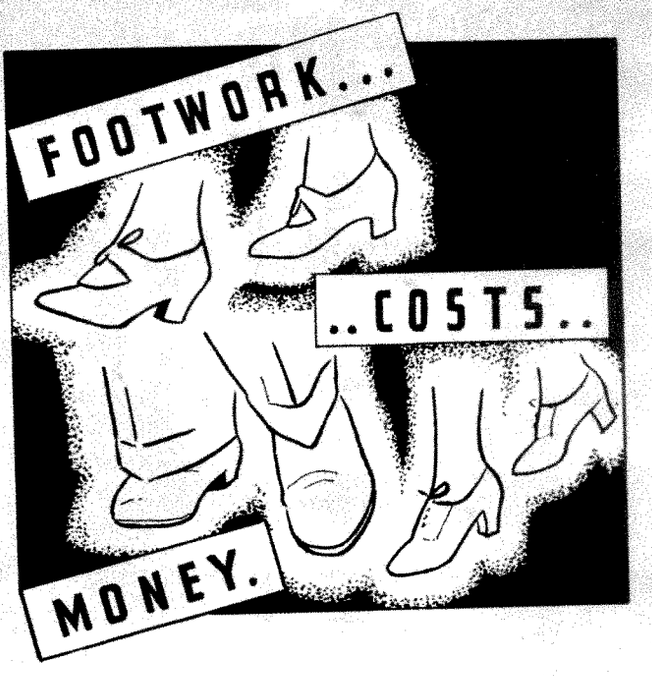
This account, however, is not yet complete, for these general provisions are followed by a series of special exceptions, relating *inter alia* to employment of lads on continuous processes (involving night work), to employment on the five-day week system, to employment in particular industries in which perishable articles are handled, such as fish, fruit, vegetables, and milk, and also to employment of young persons working as van-boys or messengers, whose occupation is chiefly outside the factory itself. There is, however, no time to go into these.

Annual holidays amounting in all to six weekdays are compulsory for all workers.

The next part, Part VII, extends some of the provisions of the Act to certain premises which are not factories in the ordinary sense. These include electrical stations, institutions, docks, warehouses, and all buildings in course of construction (not, as now, only those buildings in which mechanical power is used). Furthermore, cinematograph studios and civil engineering works are for the first time made subject to certain provisions.

(*Continued on page 35*)

Temperature control and ventilation are points in the Act. Air conditioning cabinets, as shown above, provide this without need for structural alterations. Important changes in number of working hours for women and young persons are specified. Hours of overtime are limited for each group. Will your staff maintain production under these changes?



STOP PAYING

for more than you need!

The Time of your employees is your heaviest office expense. How do you do it? Are you paying too much for "Time-waste" in filing and finding documents and papers. Slow working files—whatever the cause—slow down the speed of every operation, every decision and everyone's actions. Here is the test of any filing system and every file: *"Is each paper, letter or document instantly findable?"* Apply it to your personal files, your general and departmental files—and wherever they fall short of that test—you are paying many times more in employees' waste-time than the modest cost of using necessary Shannon Files—which will stop this needless leakage of money and time.

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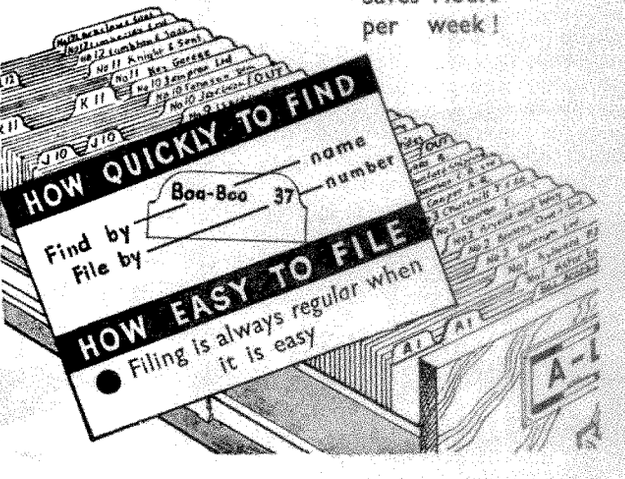
Saves Hours per week!



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Standing Charges 25s. a Week . . . . . Running Costs 2½d. a Mile

For this High-Performance 2-3 Tonner

'BUSINESS' Special Road Test No. 2 . . . . . *Commer, Type N.3*

By

RICHARD TWELVETREES
A.M.I.Mech.E.

Road Transport Editor
of BUSINESS

ON the day fixed for my road test of the Commer 2-3-ton truck weather conditions were so bad that, had it not been for certain arrangements made in advance, I am afraid I should have postponed the job.

Roads, snow-covered, with an underlayer of ice, do not provide the best circumstances for testing out a commercial vehicle. But, sticking to my policy of putting test vehicles to an actual job of work (quite a different thing from the test-run usually given), I was compelled to go through with it.

I had promised the transport manager of a hardware firm in Caterham to bring the new Commer along for a day's work. In anticipation of this he had put one of his own vehicles in for overhaul. In spite of the weather, therefore, I had to report for duty.

My plan for this particular test was

"Ice-bound roads made this test run particularly exacting. In these weather conditions, however, the comfort of the Commer driver's cab was demonstrated to good advantage"

to take instructions from the operator and during the morning's work to drive the truck over the selected route referred to in my article last month. Commer Cars, Ltd., were keen on this part of the programme as setting up a kind of standard for comparing vehicle type performance.

In addition to the Commer representative and myself, as test driver, we had the hardware transport manager to act as observer of the run.

The roomy cab accommodated the three of us in comfort, and we started along the main road to Purley and thence via the tram route to Croydon to collect a load from the Southern Railway goods yard.

Slippery Roads Proved to be no Bogey

Having covered only 200 miles since leaving the assembly line at the Commer factory, the truck was not fully run in, but the company's representative said no harm would come of any hard driving while the test was in progress.

For the first few miles, however, I was more concerned with seeing how the vehicle behaved on the slippery roads, especially as we were running light at that time. But I need not have worried. The Commer proved extraordinarily stable. Without the help of a dead load to steady their action the springs damped out any bouncing, and the treacherous surface was soon forgotten.

This machine is very nice to handle in traffic; the six-cylinder engine, having a maximum output of 70 b.h.p. and plenty of flexibility, gives a useful top-gear performance.

I discovered a slight snag, however, when it came to gear changing. On more than one occasion the gears were fumbled because the selector mechanism was on the tight side, which sometimes happens with a new vehicle; but this wears off after a few days.

At the goods yard I backed up against a loading platform; the smooth action of the clutch—which will stand plenty of slipping—permitted a beautifully smooth movement to within a fraction of an inch of the bank. For this sort of manœuvre in confined spaces a truck's transmission must be entirely innocent of harshness, or the rear wings and tailboard will suffer. I had no adverse criticism to offer in that respect with this truck.

Next, the transport manager cast a calculating eye over the lorry load area. The standard drop-sided Commer body measures 12 ft. long by 6 ft. 4 in. wide by 1 ft. 6 in. high, on a 12 ft. 9 in. wheelbase, so we were able to put a useful load aboard, one big crate and a number of smaller cases making up a gross weight of 5 tons 10 cwt., as shown by the weighbridge ticket. Of that tonnage the actual pay-load was 3 tons 8 cwt.

Having checked out of the yard, the transport manager asked for a fuel consumption test, in anticipation of which the Commer people had fixed up a one-gallon test tank. This was filled, coupled to the carburettor, and we restarted.

To get a fairly accurate idea of fuel consumption over normal delivery routes we took a course from Croydon, over Mitcham Common and via Sutton along the main Brighton road, in order to avoid the steep hills where subsequent tests for maximum performance were to be made.

In Croydon traffic we had to use third gear on several occasions, thus consuming petrol freely, but for the rest of the fuel test top-gear work at a steady 30 m.p.h. was maintained. In these circumstances 13½ miles were covered before the test-gallon gave out. This figure for a new and partly run in vehicle carrying nearly 3½ tons at 30 m.p.h. struck us as being good, giving the figure of 45.9 pay-load ton miles to the gallon.

Important Factors that Keep Down Maintenance Costs

During the run several useful features affecting low maintenance cost attracted my attention. First the high-compression ratio of the engine proved useful in slowing the vehicle without excessive use of the brakes; its reserve of power on give-and-take gradients makes frequent gear changing unnecessary, and a commendably smooth transmission evens out shocks liable to set up undue wear and tear upon the tyres and final drive mechanism.

The maximum speed is far greater than anything actually required from a 30-m.h.p. vehicle and may tempt drivers of a certain class to infringe speed regulations, as well as "flogging" the vehicle beyond reasonable limits. At the same time, if driven properly, the big reserve of power can be applied to give very quick acceleration.

Liveliness that Saves Time in Traffic

The latter quality was tested against a stop watch, which showed that from a standing start the Commer can reach 30 m.p.h. in 25 seconds when the gears are used normally; in 37 seconds when moving away from a standstill in top gear, and the speed can be increased from 10 to 30 m.p.h. in top gear in 24 seconds. These figures will be of special interest to people whose delivery work involves frequent stops and restarts, where every second counts.

The results obtained from the Commer, we were told by the transport manager, are actually better than those produced by a *one*-ton truck of another make now being used for his delivery work. "But," he added, "it is quite easy to fake the carburettor settings to produce freak consumption results on these tests."

"Maybe," I replied, "but we will soon decide whether this engine has been

(*Continued on page* 32)

POSITIVE CONTROL OF STOCK

... against shortage, left-overs, etc.

AUTOMATICALLY EFFECTED *by*

POWERS

A user states ...

"We installed POWERS — and have practically abolished overtime. The automatic check once a week in each item in the stock results in fewer shortages and less serious left-overs at the end of the season".

This recent statement made by a POWERS User is typical of the experience of hundreds of others who have adopted the POWERS punched card method of accounting.

If you are interested in obtaining up-to-the-minute accounting economies, we will be glad to send you literature describing the methods which produced the above satisfactory results.

Powers Equipment may be purchased, hire-purchased or rented on very advantageous terms.

Powers Accounting Machines are the original Punched Card Accounting Machines.

POWERS-SAMAS ACCOUNTING MACHINES, LTD.

POWERS-SAMAS HOUSE, HOLBORN BARS, LONDON, E.C.1

We Now Get Up-to-the-Minute Figures for *SALES CONTROL*

Here was a case where the old method of Sales Analysis was falling sadly behind. Pressure of competition and growth of the Company demanded a far Quicker, more Detailed and more Accurate analysis. The Paramount Sorting and Slip-Post Card Systems gave all three factors

By W. PURT
Assistant Secretary
Imperial Typewriter Co., Ltd.

WITH the rapid growth which has taken place in the organization of the Imperial Typewriter Co., Ltd., in the last few years the demand for up-to-the-minute statistics became increasingly important.

This applied to all activities, of course, but most particularly to sales. The keen competition which we were facing caused the sales departments constantly to demand statistics which, under our old system of sales analysis, could only be obtained by a great deal of special effort, and even then, in many cases, the results could not be more than approximate.

Old Methods Helped Us to Plan the New

These demands, however, served a very useful purpose in that we were able to collate them over a period and therefore to obtain a very clear idea of the information which was regularly called for. We were thus enabled to reorganize our sales analysis accordingly.

Some few years ago, by a slight rearrangement of our procedure, we found it possible to introduce a multiple invoice set which we were able to type in one operation from the customer's order, thereby producing the invoice, daybook sheet, sales analysis copy, advice note and work's order. The part of the set which cannot be operated until the order is complete, *i.e.*, the customer's invoice, daybook sheet and sales analysis copy, remains in an abeyance file and is automatically released by a tear-off section of the advice note when the goods are dispatched. The corresponding invoices are then extracted from the abeyance file and from these are obtained the control total for (*a*) posting the ledgers, (*b*) preparing sales analysis.

Until two years ago the statistical copy had been a plain copy of the invoice, and analysis was obtained by hand sorting and listing. It was comparatively easy to agree our analysis totals with the control in value, but it was becoming of increasing importance, both for sales and stock controls, to account for machine quantities in various carriage sizes. We found that the hand method of sorting was too slow and limited for our requirements. To take the place of the existing sales analysis copy we therefore introduced into the set a Cope-Chat Paramount Card (made by The Copeland Chatterson Co., Ltd.).

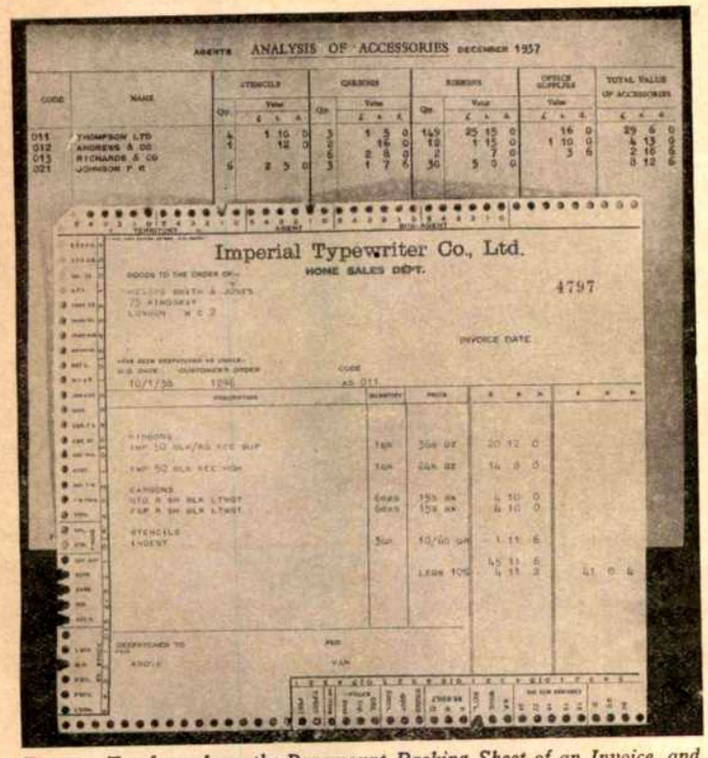

Fig. 1. *Top form shows the Paramount Backing Sheet of an Invoice, and items on this Invoice are shown slotted on the Paramount holes, which holes are also slotted for the Territory and Agent, i.e.* 011. *Rear form shows final tabulation of results and Analysis achieved by method illustrated in Fig.* 2

Simple Code System Identifies Distribution

Our products are distributed by something like 50 main agents in the British Isles, and export agents in other countries throughout the world. For the purpose of analysis according to territories, we introduced a simple system of figure coding, numbering the various world divisions from 0 to 9. Thus 0 represents England, 1 Scotland, 2 Ireland and so on.

The territories within each country, controlled by agents, are numbered in each case again from 1 to 9, and sub-agents are allotted the next two digits. Thus, code 01101 represents the first sub-agent to the agent controlling sales in South-East England.

This enables us to provide for a punching on our Paramount cards as illustrated in figures 1 and 3. Punchings are also provided for commodity analysis as shown at the foot of the card. We found that no object would be achieved by introducing codes for commodities, therefore punchings are provided according to names.

As each day's invoices are dispatched they are totalled to obtain the control both for posting the ledgers and for

The PRIMUS attachment, as supplied by us, fits any typewriter and facilitates the smooth flow of continuous forms. It allows the machine at a moment's notice to be used for either billing or ordinary correspondence work.

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On routine tasks such as invoicing, billing, etc., a great deal of time and effort can be saved, and much more accurate work produced, by the use of PRIMUS Continuous Stationery.

This equipment cuts out all those time-wasting and irksome operations like interleaving and withdrawal of carbons and forms, alignment of forms, etc. Instead, the forms flow smoothly into the machine, so that all the operator's time is used in actual typing. As much as one hour in three is saved.

Here are some of the typical applications of PRIMUS forms :

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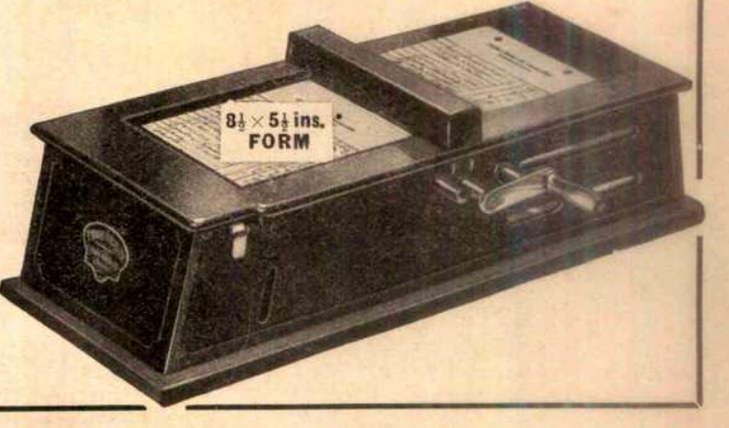
Invoicing	Purchase Orders
Delivery Notes	Job Progress
Works Orders	Inter-departmental Records

FOR HANDWRITTEN RECORDS the PRIMUS Autographic Register for use with Continuous Stationery, ensures the same speedy, smooth operation, while a copy of each form automatically locked in the machine provides your auditor with a check on each transaction.



Carter-Davis Ltd.

Queen Elizabeth Street, London, S.E.1

Hop 0204-5-6

sales analysis, the daybook sheets being passed to the ledger section, and the Paramount cards to the statistical section. The cards are then keypunched for territory and commodity sales and then needle-sorted into territories, in which order they are vertically filed in a tray which is moved about the office on a trolley.

Analysis is done in six-day periods, except at the beginning and end of each calendar month, and at the end of each period the control totals are made up for each territory and agreed with the posting total. The total for each agent is then transferred to a buff-coloured Slip-Post card (another Copeland-Chatterson system) bearing his code, and his commodity sales are obtained by needle-sorting the Paramount cards under his section, and are extended to the appropriate commodity column.

Each Slip-Post card as it is written is inserted in a Kraft sheet until the series is completed for the weekly period, a green Slip-Post card being inserted for totalling the sales of several agents on one territory to give the area sales. Thus, the totals of the buff cards for 011, 012, 013 will be sub-totalled on to a green card giving the area sales for the whole of the South-East of England.

The built-up Kraft sheet is then cast, the grand total agreed with the daybook control and the cross totals balanced with the grand total, a red Slip-Post card being inserted to carry these totals. The sheet is then disassembled and each card for the period is transferred to its respective section in a binder.

As analysis reports are made for a

(Continued on page 37)

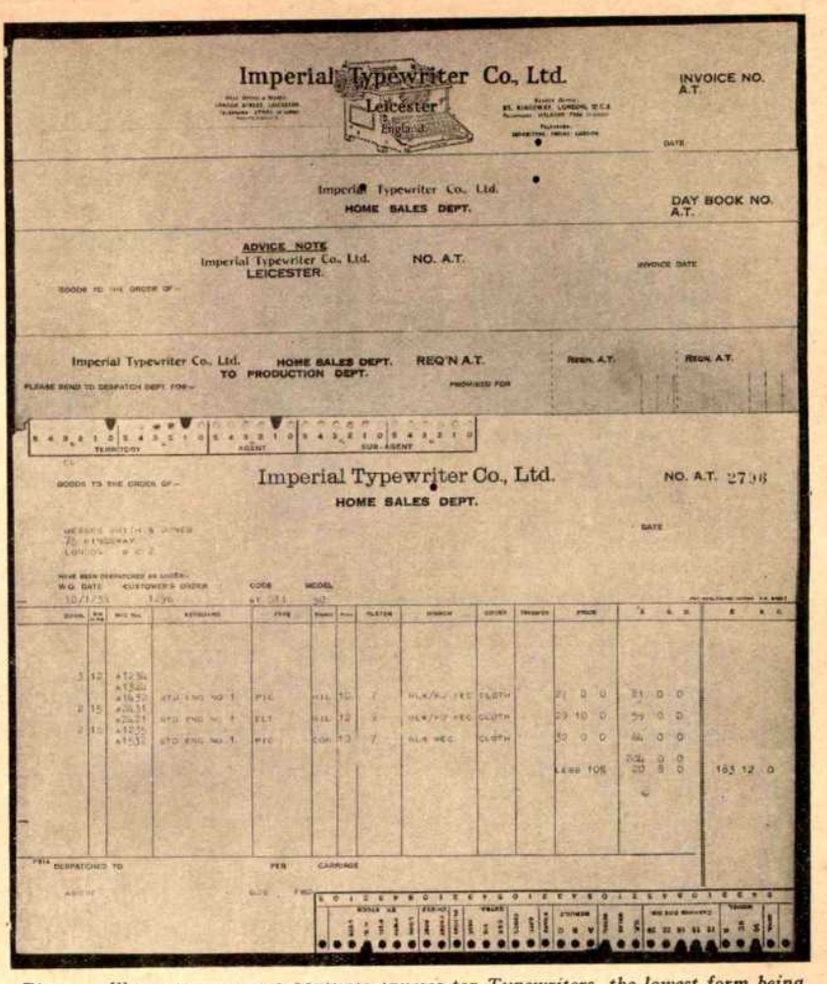


Fig. 3. Illustrates a 5-part Multiple Invoice for Typewriters, the lowest form being the Paramount Backing Sheet. The punching on this form shows Territory 011 and the sale of Model 50 Typewriters with 12", 15", and 18" Carriages taken from Head Office stock

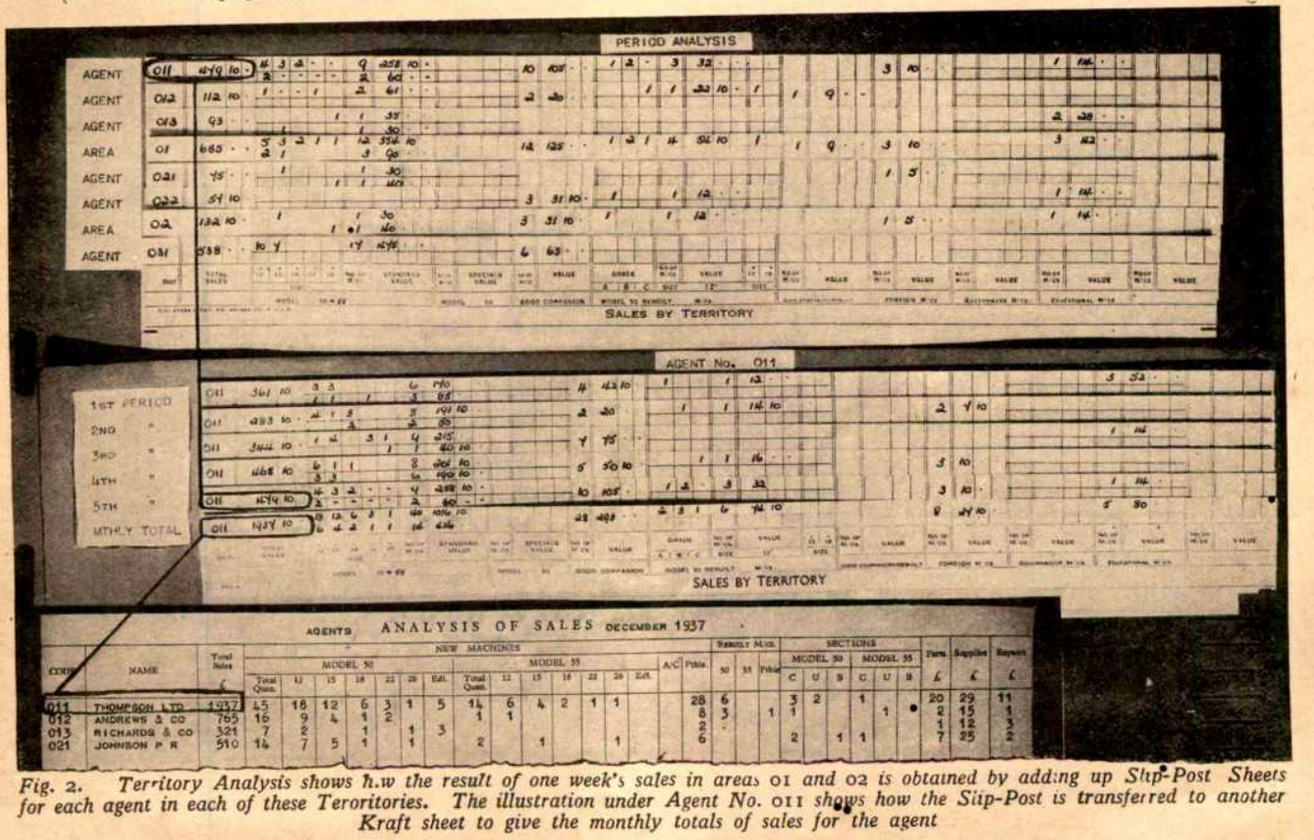


Fig. 2. Territory Analysis shows how the result of one week's sales in areas 01 and 02 is obtained by adding up Slip-Post Sheets for each agent in each of these Teroritories. The illustration under Agent No. 011 shows how the Slip-Post is transferred to another Kraft sheet to give the monthly totals of sales for the agent

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PRACTICAL KNOWLEDGE obtained from twenty-one years of experience and experiment lies behind the assistance which the National Savings Committee is able to offer to employers who wish to introduce savings facilities for the benefit of their employees.

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THE NATIONAL SAVINGS COMMITTEE will always be pleased to arrange for one of its representatives to visit a firm with a view to discussing on the spot what are the particular requirements, and to suggesting ways of meeting them. Concrete schemes, based on data provided by individual firms, can be submitted.

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NATIONAL SAVINGS COMMITTEE *(Dept.* B.6.E*)* **LONDON . S.W.1**

BUSINESS EQUIPMENT REVIEW

Is Your Campaign Weak at 'Point of Sale'?
Here's A Machine to Help You

1. Produce tailor-made display units for special needs

2. Print a small price ticket or a 25 in. by 38 in. poster

3. Reduce costs to fraction of normal printing prices

by

C. E. DAY

MANY manufacturers who have otherwise strong advertising and marketing campaigns are weak at the point of sale. Yet tests have shown that pressure exerted when the customer is at a shop, ready to buy, can vitally influence his choice.

Sales and advertising executives are mostly aware of this weakness when it exists in their plans, but a major trouble is to provide the necessary strengthening at an economical cost. Manufacturers with a score to a few hundreds—even a few thousands—of retail outlets find the cost of producing such "points of sale" matter as showcards, cut-outs, display stands, posters, price tickets, pelmets, and so on, a drain on their resources. Most of this printed matter needs runs of many thousands to bring the unit cost down to an economic level. This fact leads to over-production of showcards, display materials, etc. It is the cause of much waste of materials, disproportionate point-of-sale expenses and weakness in the marketing campaign. Moreover, such mass production cannot allow for the widely varying needs of individual retailers.

This month I inspected the series of Masseeley machines on which can be printed at very economical rates all the "point of sale" type of material which I have mentioned. The machines are made and sold by Masson Seeley & Co., Ltd., 14 Howick Place, Westminster, London, S.W.1. They can be used for producing advertising matter varying from a small price ticket to a 25 in. by 38 in. poster in an almost unlimited range of colours.

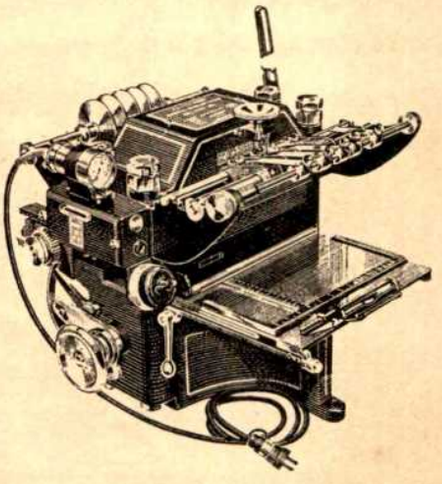
Process is Much More Simple than Printing

The Masseeley process is quite different from the ordinary printing processes. There is (1) no make-ready, (2) no intricate production technique, (3) no cleaning of rollers, (4) no mixing of paint or inks, (5) no finishing process. The latest model, Masseeley Universal Machine, incorporates the roll-feed process. This means that the colours used in printing are supplied from rolls of dry pigmented foil which automatically feed through the machine.

Let's take a simple job and see how it is done. The type or die to be used is set face down on the sliding platen and a sheet of gummed manilla is placed on its back. The platen is then slid under the pressing surface of the machine. The pressure, applied by depressing a lever, brings the gummed sheet against a hot platen in the machine. (Incidentally, the machine is kept at proper heat level by thermostatic control.) The heat causes the paper to adhere to the back of the type and to the hot platen. The sliding platen is then withdrawn and the type is in position for printing. It is held there securely for a long run.

The rolls of dry pigmented foil are arranged on the rollers and fed through the machine to pass under those type surfaces. Black foil is passed over that surface which is to be printed in black, red over that part to be printed in red, and so on. The paper, board or whatever material you are printing on is then placed in correct position on the sliding platen. This is slid in, pressure applied by depressing the lever, and the platen pulled out again with the price ticket, show card, display piece or whatever the job may be, printed and ready for use. It's as simple as that.

The colours are fast and waterproof and are dry the moment they are printed. A number of colours can be used at the one time in the manner I have described, as long as they are not overlapping. Where colours are placed one on top of the other as in, say, an illustration of a woman in coloured dress, separate runs through the machine are needed.



This example, however, shows only the simplest operation and does not give a true idea of the range of the machine. Most intricate colour work can be carried out speedily. Printing can be done on a wide range of materials such as all types of celluloid, Cellophane, any kind of fabric (including leather and velvet), on wood and similar surfaces and any type of paper and board.

Highly Intricate Designs Can be Made

Brass dies are mostly used but the ordinary zinc line blocks are suitable when the runs are not long. It is even possible to use cardboard blocks. By this means a sketch or lettering and design can be reproduced immediately in ordinary form or in reverse. All you do is to make your sketch on a piece of cardboard and then cut away from it, or cut it away from the rest of the board, depending whether or not you want a reverse impression, in precisely the same way as when cutting a line block. This method makes it a relatively simple and speedy matter to print elaborate window bills and posters of considerable size and irregular shape. A special set of dies enables the user to produce elaborate cut-outs and display stands on which the actual merchandise can be displayed in association with the sales-message that sells it best.

The machine can, of course, do so many

Showcards and cut-outs, as shown here, can be turned out at a fraction of ordinary printing prices. Yet each display piece can be produced for a special purpose. Time, too, is saved. Within 15 minutes of starting the job, a three-colour showcard can be ready for use. From that point onwards production can swing into hundreds an hour

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different kinds of work that the few simple examples I have quoted serve only to show *how* it works. As you can see, the operation is straightforward. Normally, an intelligent youth or girl can handle the machine competently after two or three days' instruction, although proficiency in the more delicate forms of Masseeley work increases with experience. There's no need for the persons concerned to have had any experience of printing. With a little practice a speed of 500 impressions an hour is obtained, while a skilled operator can reach the 1,000 an hour rate.

Machines Fit in With Your Existing Routine

Most of the specific points of advantage of the Masseeley machines fit in with special needs of manufacturers, retailers, distributors and other business men, big and small. There are six factors which are of importance to all: (1) control of production, (2) problem of the "economic minimum", (3) time-saving, (4) the local and topical touch in display materials, (5) need for variety in display, (6) money-saving.

Examine production problems. Under ordinary conditions outside artists and printers are needed. Whether or not they get on with your job at the time you wish them to is uncertain. From the time you conceive an idea to the day it is complete and ready for use, you have minimum control over production and progress. With a Masseeley Unit on the spot, with your own operator and complete equipment at hand, entire control is in your hands.

The Scottish MANAGEMENT EXHIBITION

will be open at the McLellan Galleries, Glasgow from February 7th to 12th.

A retail store might want to produce at a rush a range of display material. The amount in one store must be limited to a point where, if the job is a one-time affair, printing is wildly expensive—especially two, three, four and more colour work. Hand lettering, designing and illustrating usually answer the problem, despite the relatively high cost. This is where the Masseeley Unit comes in. For one ticket, card, showpiece or what you will—or for 50, 500 or 5,000—the time and cost are economical.

Time-saving? In fifteen minutes a three-colour showcard can be produced and from that point onwards production can swing into hundreds an hour.

Take the case of a manufacturer who has a chance to tie-up on a topical event or some local happening. He needs to get out in an hour or two attractive display material to 60 or 200 retailers or more. He can do it easily on this machine. Say he wants to get in a "personal" touch with showcards, etc. There's no need for the delay and expense of orthodox overprinting. It costs practically nothing in money or time to add each dealer's name to the standard showcards before they are dispatched. And this, by the way, is very important. It "personalizes" the material and flatters the dealer. He will, therefore, give a good show to such material and not be indifferent to or even discard it, as happens so frequently.

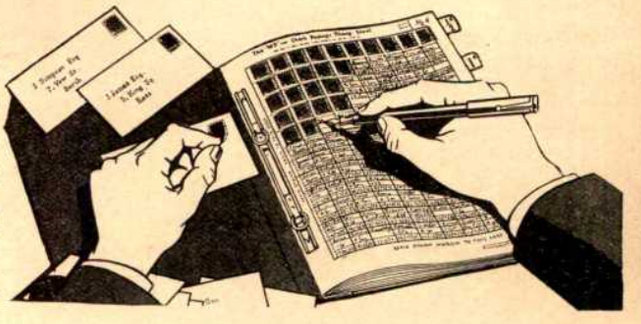
Small Quantities and Constant Changes are Possible

There is, again, the value of variety. As the smallest quantities can be produced economically, both manufacturer and retailer can make constant changes in display matter. There's no need to scrap costly material or use it long after its effectiveness has gone. Cut-outs, showcards and the rest can, too, be produced in the sizes and shapes to suit individual requirements of dealers.

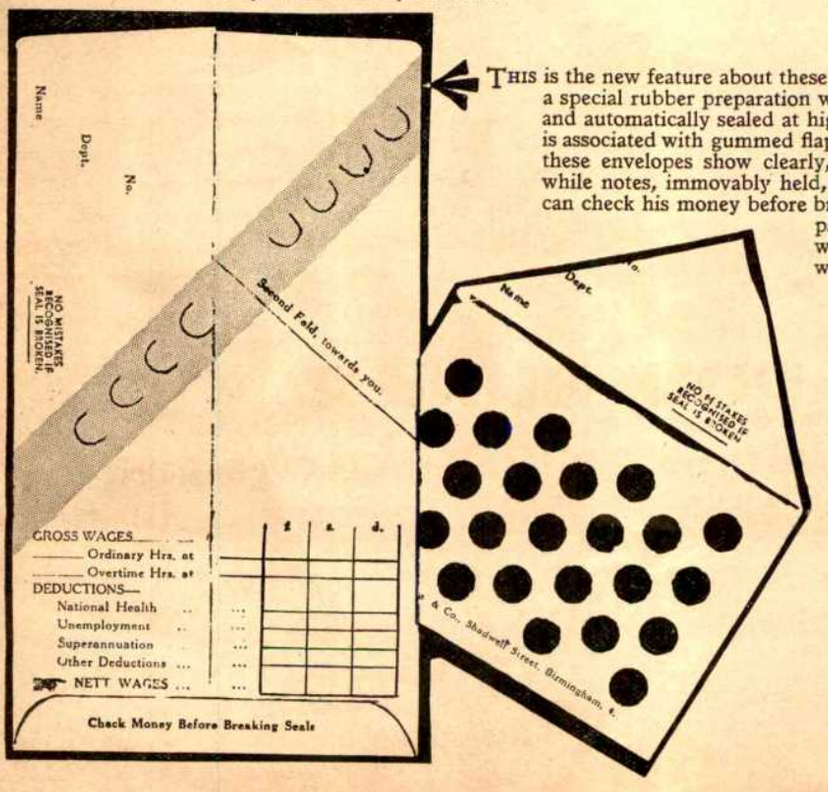
All these factors make it possible to save money.

New Time-Saving Equipment . . .

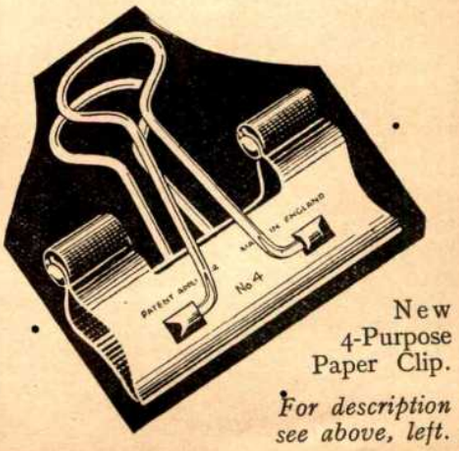
Right : In this handy stamp book each check sheet accommodates 120 stamps on each side. As each stamp is removed the clerk writes the details in the space exposed. Even in firms where stamping or franking machines are used many managers use these books for recording branch or departmental stamps. From Manifoldia Ltd., West Bromwich



Below, right : [Plenty of new features about these roller bearing paper clips. (1) Use as an ordinary paper clip; (2) With papers in place fold one arm of the clip down, this controls the papers and leaves only one arm to hang on a nail or hook; thus several clips can be kept on a single hook; (3) With papers in place fold down both arms and the clipped papers can be carried comfortably in a folder or the pocket; (4) Remove both arms altogether and papers remain securely clipped and locked since no means remains for opening the clip until arms are reinserted. Use the arms as a simple loose leaf binder. Herbert Terry & Sons Ltd., Redditch



THIS is the new feature about these improved pay envelopes. The dark band represents a special rubber preparation which enables the envelopes, when filled, to be folded and automatically sealed at high speed without any moistening or fiddling, such as is associated with gummed flaps. Wages make-up is thus speeded up. When filled these envelopes show clearly, through the perforated holes, the amount of cash; while notes, immovably held, protrude from the other side. Thus, the recipient can check his money before breaking sealed envelope. You can try these new pay packets, free. Lancaster Bros. & Co. will send you, without cost, sufficient to supply your payroll for one week. Use the coupon you will find in their announcement on page 37.



New 4-Purpose Paper Clip.

For description see above, left.

Find Out WHY your Employees Leave

(*Continued from page* 14)

"Then in any biggish business, too, I think it is an excellent thing to have a staff council, composed partly of the staff and partly of the management.

"Such council meetings help matters, but still there will be a certain amount of nervousness at bringing points forward, particularly matters, shall we say, connected with supervision or matters which the staff think show that they are slack in any way, or which might get in the way of their promotion.

"The management, on their part, often do not realize the importance of 'small' things brought to their notice.

"We were working in one factory where there was a lot of trouble in one department. The girls had to wear caps over their hair, quite rightly, to prevent it from getting into the machinery. The cap that the management had chosen happened to be a hot and uncomfortable cap. The girls complained to the forewoman, and the forewoman had told the works manager, but it had been left at that.

"It was always being raised in the departments concerned that the girls would not wear their caps, and the forewoman *made* them wear their caps, with the result that three or four members of the staff left, the rest were completely unhappy. There was a spirit of mutiny in the department over that seemingly very minute matter which had been taken to the attention of the works manager, but which he had simply forgotten about.

Often the Small Things Have Big Consequences

"It sounds small, but you know the saying of the—what is it? 'The pin prick hurts and the bludgeon merely stuns'. It is often a number of small pin pricks of that kind that do have ultimately rather a bad effect.

"If I was asked to put first what was the main cause of grievance I would say: first rank supervision. You all know how much it irks if you have someone immediately above you who is not sympathetic, who is not helpful, who nags, who bullies, who is trying in various ways. The difference you get between departments that way is amazing. I know a firm, an office, where there are two departments, apparently exactly similar. They are doing similar work, the pay is the same. In one there is a popular supervisor and in the other there is an unpopular supervisor.

"I was speaking of labour turnover just now. In the popular one the labour turnover is 15 per cent per annum; in the unpopular one it is 50 per cent per annum, and they are lucky to have it as low as that. And there is a further thing. In the one where there is a

(*Continued on page* 35)

THEY GREW WITH Smiths

Here are three famous names; nationally—even internationally known, successful businesses. We are proud to number them among our clients. Mark this: in common with so many SMITHS' accounts, they did not come to us as successes. *They were built up into successes*, with our assistance. Read below the brief records of these examples of amazing business development. Is not this convincing proof of our capacity for making *your* advertising pay!

Chivers

★ To-day the name of Chivers is a guarantee of purity and quality all over the English-speaking world. This famous firm came into being when a fruit farmer discussed with us a plan for making his fruit into jams and jellies and selling them under his own name. Standing amongst the original orchards is now one of the most prosperous factories in the world — a living monument to business enterprise and to consistent advertising.

allinson

★ Dr. Allinson was an idealist. He had to fight not merely inertia but bitter opposition in putting his convictions before the world. But the success of the marketing and advertising policy laid down and maintained by us is shown by the present widespread appreciation of Allinson's pure food products by both the public and the medical profession.

The Boots Chemists

★ When the famous firm of Boots began its association with us there were less than a hundred branches. To-day there are well over a thousand. At one period a new branch was opened every week. Our co-operation as Advertising Agents played a part in this amazing growth. A recent development of this association is the advent of Messrs. Boots "on the air."

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THROUGH CO-OPERATION WITH Smiths

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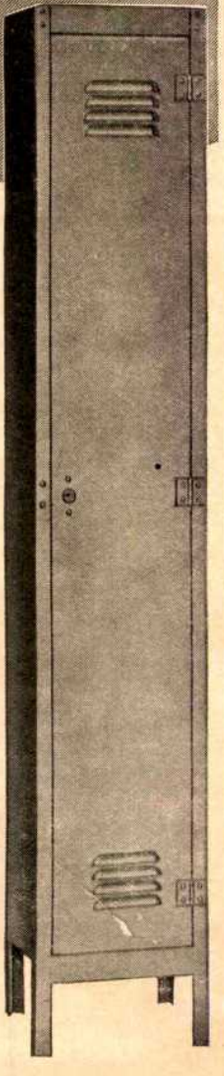
neat, clean, light, strong doubly-ventilated, small in floor-space, durable olive-green enamelled finish . . .



The complete range of Valor Steel Equipment includes; cupboards, clothes lockers, waste-paper tubs, index cabinets, filing cabinets, filing trays, letter racks and steel shelving for all purposes.

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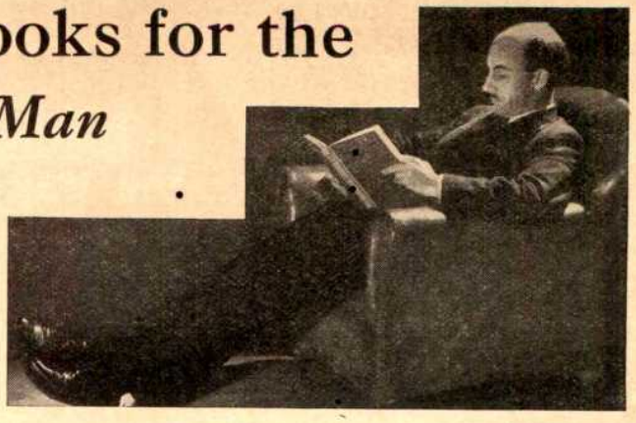
New Books for the *Business Man*



Modern Office Management, by H. W. Simpson. (Pitman, 7s. 6d.)

This book was written with a vitally important aim in the author's mind: " . . . to seek out *wastes* in administration and office procedure and to indicate, in broad terms, appropriately corrective measures."

Mr. Simpson—who has frequently contributed articles to BUSINESS—is well known as an able and progressive business organizer. Though he claims only to have dealt with broad principles in this book, he has in fact been so specific and has covered the field so completely that his recommendations are actually ready-made guides to successful office management. The illustrations are plentiful and well reproduced.

Organizing a Sales Office, 2nd Edition, by L. Urwick, O.B.E., M.C., M.A., etc. (Pitman, 10s. 6d.)

Here is described in specific detail the organization of the selling departments of Rowntree & Co., Ltd.; further changes and improvements made in the past ten years; and the application of similar centralization in the sales offices of John Player & Sons (branch of Imperial Tobacco Co. of Great Britain and Ireland), Ltd.

Mr. Urwick, well known as an organization and management consultant, describes every process step by step and finally sets out the profitable and highly interesting results obtained.

Business Charts, by T. G. Rose, M.I.Mech.E., etc. (Pitman, 7s. 6d.)

There is no question as to the vast superiority of the *"pictorial"* presentation of business facts over other and less dramatic ways of setting them out. That "a good picture is worth more than a thousand words of text" has always been true in the newspaper world; and it is as true in any sphere where *facts* have to be presented on paper for mental assimilation. A graph is a "picture", and when facts and statistics can be presented by means of such a picture then the mind can grasp them in all their significance in a fraction of the time necessary for, say, columns of figures.

Executives in every business can use this book.

Flexible Budgeting and Control, by D. J. Garden, M.A. (MacDonald & Evans, 7s. 6d.)

The difficulties in many businesses today lie in the fact that no idea of a profit (or loss) is available except at the end of a fairly long period. But with a budget in operation covering sales, purchases, production and finance based on the fact that a definite volume of sales will obviously demand a clearly defined and detailed production or level of stocks, then "all these functions can be co-ordinated with almost mathematical precision on pre-determined lines *and the efficacy of the co-ordination tested by results*". That is the secret of the flexibility of budgeting control.

This book dispels the idea that budgetary control has a limited application. It is an A B C explanation of the whole purpose of a budget and a clear demonstration of its application as a modern tool of business management.

Factory Administration in Practice, by W. J. Hiscox and J. R. Price, A.C.A., etc. (Pitman, 8s. 6d.)

The schemes outlined and the views expressed here are the results of *practical* experience in some of the best-known and most successful manufacturing firms in the country. A book for every member of the factory administration staff.

Wages and Labour Conditions in British Engineering, by M. L. Yates, M.Sc.Tech., etc. (MacDonald & Evans, 6s.)

Principles of Accounting, by A. L. Prickett and R. M. Mikesell. (Macmillan, 15s.)

Psychology of Selecting Employees, by D. A. Laird, Ph.D., etc. (McGraw Hill, 24s.)

The Administration of Marketing and Selling, by Harold Whitehead. (Pitman, 15s.)

Modern Management, by J. E. Walters, Ph.D. (Chapman & Hall, 15s.)

Stores Accounts and Stores Control, by J. H. Burton. (Pitman, 10s. 6d.)

Modern Railway Practice, Facilities and Changes, by L. A. Carey, M.I.T.A. (Industrial Transport Publications, Ltd., 7s. 6d.)

IF I WERE A MANUFACTURER . . .

"And had a difficult problem to solve in connection with the production side, I would post up an appeal in the works that would read something like this:

SUGGESTIONS ARE INVITED

1. For improving the present method of tool storage and issue.
2. For preventing scratches on finished surfaces during conveyance of parts to stores.

"I think that to ask for specific help like this would be much more effective than waiting on the off-chance for some idea to emerge from an ordinary suggestion-box system."

the way to faultless Time Recording.

* Electrically controlled Time, constantly accurate. No winding, regulation or supervision.
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* Recordings are made on front of card, accelerating "Clocking In" rate.
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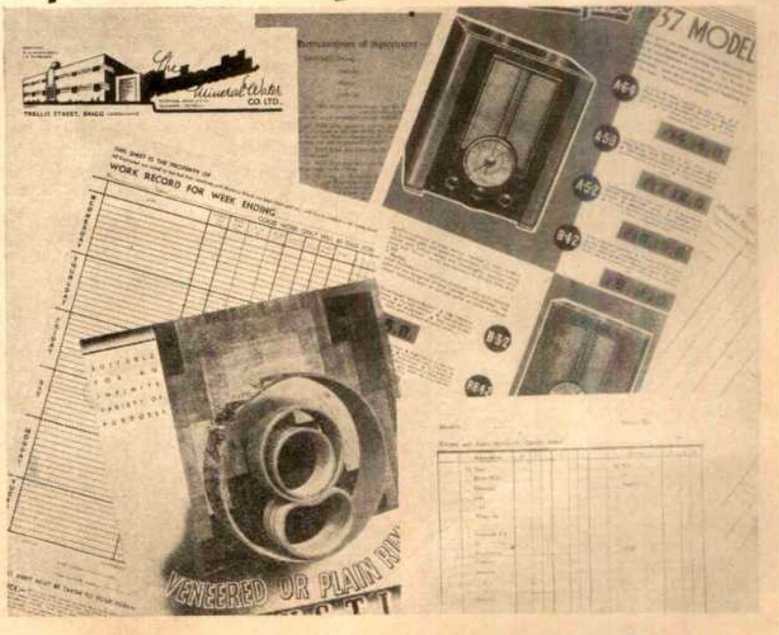
Scientific

Why not buy Master-Sheets of all your office stationery and publicity literature, and SAVE MONEY!



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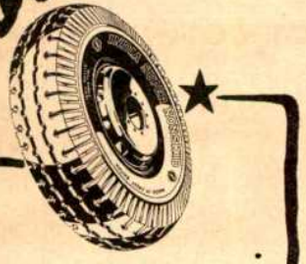
I am the new INDIA commercial vehicle tyre



The India Tyre & Rubber Company.—long famous for high grade commercial vehicle tyres have now, as a result of intensive research into the requirements of modern transport operation, produced a new range of COMMERCIAL VEHICLE TYRES which embodies the results of this specialised knowledge.

THE MARK OF SERVICE

1855

Business Road Test No. 2 (*Continued from page 20*)

specially tuned for economy or not; the hill-climbing performance will tell us that."

It was Tilburstow Hill, near Godstone, with its maximum gradient of 1 in 6, encountered after a gruelling climb of a full mile that gave the first direct evidence of what the Commer can achieve in hilly country. The gradient was surmounted easily on second gear at 13 m.p.h. without at all distressing the engine.

The behaviour of the Bendix-Cowdray brakes, standard to Commer vehicles, deserves special mention at this juncture. After making a fast descent from the top of the hill, when the pedal was depressed lightly to warm the drums, we pulled up from 30 m.p.h. in less than three seconds, without getting into a skid that was quite expected on the snow-bound surface.

Plenty of Power, Even at Low Revs.

Tilburstow is one of those hills that cannot be rushed at the start, and, because of the icy surface, we had to make a particularly steady climb. The well-graded second gear stood us in good stead, and the engine pulled gamely until the crankshaft was turning over quite slowly.

Then came the real test for maximum performance at a carefully controlled speed to avoid risk of wheel spin. Had that happened on the 1-in-4 portion the best brakes in the world could not have prevented our sliding backwards on locked wheels, so the performance was quite a convincing bit of work when we reached the top.

Transport operators in the Godstone area have told me that road spring renewals account for a heavy maintenance cost, which cannot be wondered at if their vehicles have to travel often in the vicinity of White Hill.

The particular section of our course included one of the roughest roads in the neighbourhood. I am not going to claim that we had a feather-bed passage over the frozen ruts, but, although the Commer floundered up and down and rocked from side to side, the steering gear remained virtually unaffected under conditions that might well have jerked the wheel out of one's hands.

FACTS AT A GLANCE

Vehicle Tested : Commer 2-3 ton standard truck (Type N.3).

Makers : Commer Cars Ltd., Luton, Beds.

Capacity: 2-3 tons.

Body Length : 12 ft.

Wheelbase : 12 ft. 9 in.

Fuel Consumption : 13.5 m.p.g.

Pay-Load Ton Miles Per Gallon : 45·9.

Maximum Gradient Climbed : 1 in 4.

Annual Tax : £30.

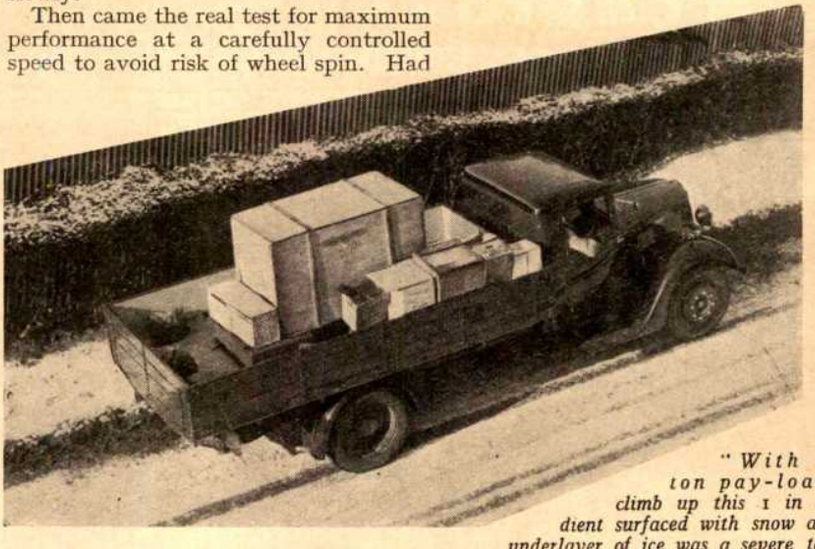
Vehicle Price: £284 as standard lorry.

Occasional bumps from the rear end proclaimed that the springs were going through full deflection tests, but neither chassis nor bodywork appeared to suffer from the terrific gruelling it underwent.

"Here's a good test for the brakes," remarked one of my companions, pointing to a winding drop leading back to the main road. Thereupon I decided to keep on direct drive and to rely entirely upon the Bendix-Cowdray system for retardation. It meant, however, keeping the brake pedal hard down for several minutes—a critical test for drum ventilation, and, though at the end the drums were quite hot, there was no smell of scorched linings.

The rest of the trip was easy, and a quiet run back to Caterham proved that the Commer was none the worse for its winter steeplechase.

Before the load was discharged the transport manager examined the bodywork critically, expecting, I imagined,



"With a 3½-ton pay-load the climb up this 1 in 4 gradient surfaced with snow and an underlayer of ice was a severe test, as any attempt to rush the hill would have resulted in wheel-spin. But the engine pulled powerfully on a reduced throttle opening and the climb was made without a falter"

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With featherlight mobility

DESIGNED AND MADE BY SPECIALISTS . . .

EQUIPMENT fitted with "Revvo" ball bearing castors moves with ease and silence. The type illustrated is made on the same patented principle as the heavier industrial types—without a centre pin in the ball bearing swivel—and can be supplied with numerous attachments which meet most needs.

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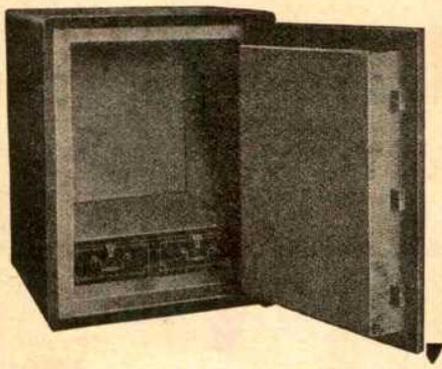

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THE PAST . . .

THE PRESENT . . .

and # THE FUTURE.

Lancashire's past is the story of the industrial revolution and the rising might of British industry.

Lancashire's present displays the same spirit of industrial enterprise and foresight.

535 factories were opened during the years 1932-1936. Factory building plans have increased 400%. More and more industrial concerns are investigating the unique facilities which have enabled the Lancashire Area to achieve this remarkable record.

Lancashire's future holds unrivalled opportunities for the still further development of modern industry.

Enquiries for information and expert advice on available factory locations are treated in strict confidence.

J. BENNETT STOREY, *General Manager.*

LANCASHIRE

INDUSTRIAL DEVELOPMENT COUNCIL

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Preliminary Information obtainable through :—

THE TRAVEL AND INDUSTRIAL DEVELOPMENT ASSOCIATION OF GREAT BRITAIN AND IRELAND, 6, Arlington Street, London, S.W.1, British Empire Building, Rockefeller Center, New York, and 28, Avenue des Champs Elysées, Paris.

to find that the weight of the heavy cases and the shocks on the structure had affected the floor or sides. He expressed his entire satisfaction with the examination, for the floor is supported on a generous underframe and is reinforced by metal strips running its full length.

This is How the Costs Work Out

With regard to approximate costs of working the Commer N.3 you can put down the standing charges per week as follows: Tax, 12s.; garage rent, 5s.; insurance, 6s.; interest on capital, 2s., giving a total of 25s. per week.

Assuming a weekly mileage of 300, the total cost on the above basis will be the 25s. standing charge, plus 300 times the all-in running cost of 2½d. per mile, which works out at £4 7s. 6d. per week, less driver's wages.

Therefore, taken in conjunction with the performance recorded above, the figures substantiate the claims made for the Commer N.3 as being a thoroughly economical proposition.

How to Maintain Your Brakes

THERE is no point about a commercial vehicle more important than its braking. This factor, apart altogether from its legal aspect, influences a transport manager's costs in direct and in indirect ways.

Many fleet operators have installed brake-testing appliances; but, whether you have this equipment or not, it is well worth while to get the Bendix Service Manual, "Brake Testing".

This is a free publication, issued by Bendix, Ltd., of Tyseley, Birmingham. In addition to describing the Bendix-Cowdray Brake Tester this booklet gives a lot of valuable information about the detection of faults and the adjustment of all types of brakes.

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If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.

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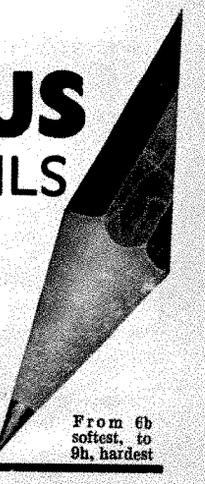


From 6b softest, to 9h, hardest

(*Continued from page* 29)

popular supervisor the sick leave per annum is the ordinary average for office workers—five days per annum. In the department where there is an unpopular supervisor the average sick leave is 15 days per annum. Three times as much.

"I was in one firm not long ago where, out of a department of thirty people, twenty-nine had spoken vigorously about their supervisor and I happen to know that last Christmas she had been given a gold wrist watch—Christmas present—and I said, rather to draw people out: 'Why did you give her a wrist watch for Christmas if you are feeling like this about it?' And they said that the thirtieth person in the department, her friend, had gone round collecting for the wrist watch and had sent in a list of the names of the people who were contributing to it, but they said she was away when they had a meeting of the staff about it and 'we voted equally,' she said, 'whether we should give her a Mills bomb with the pin drawn out or merely a bouquet of flowers with some bees in it.'

"I knew one extremely well-run office of about 300 people where the cause of trouble was such an apparently small thing that I hesitate to mention it. Anyway, it had for long been the custom that when any girl had a birthday the others in her section gave her flowers. These flowers were always put on the desk and they did make, in this rather sombre office, a bright patch of colour. When a new supervisor was installed one of the first things she did was to forbid the flowers-on-desk custom. Anyone who had flowers had to keep them on the floor.

"In an office of that size most days was a birthday for somebody, and it was not long before the spirit in that office was almost on the point of open revolt. Fortunately the office manager got to know about it in time."

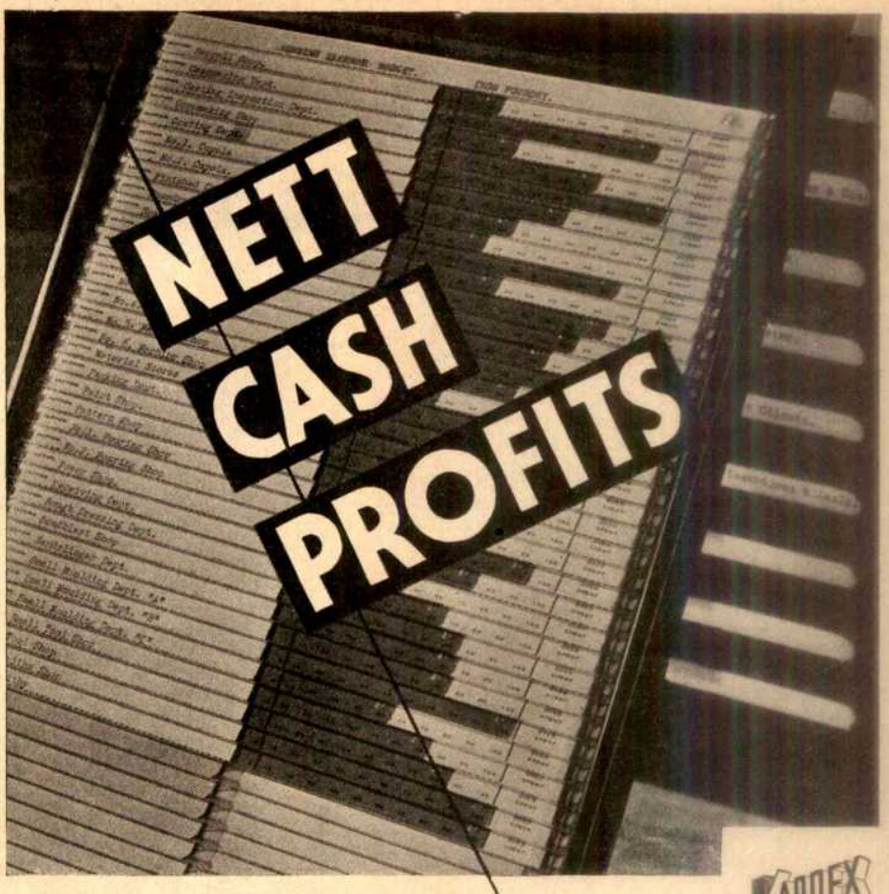
In *every* business staff happiness and contentment—which directly affects a firm's working costs—depends on a multitude of little things that bear upon the individual's personal sensibilities. Management must therefore thoroughly understand this and it must then devise some means whereby it can, all the time, be acquainted with its employees' personal reactions under working conditions. Such a policy is not only humanitarian, it is good business.

●

Is Your Factory in Line with The New ACT?

(*Continued from page* 18)

I pass over with relief the next four parts of the Act, dealing respectively with home-work, particulars of piece-work, miscellaneous, and administration, as they are practically existing law, and come to Part XII, with the ominous title of offences, penalties, and legal proceedings.



An excessive gap between Gross Profits and Nett Cash Profits can be explained by erosion—erosion at a dozen or more points in the process of manufacture, merchandising, and accounting. Behind this, of course, is lack of control, often unsuspected. In any manufacturing process, for instance, profits are bound to be frittered away if there is not a complete planned control of factors such as the flow of raw materials, the movement of stocks, shop loads, etc. Such a control must not only continually check the performance against the plan, but also reveal immediately the location and cause of any hold-ups. These are precisely the problems solved by Kardex visible records and mechanical planners, which, in addition to giving you a complete control over every stage of the manufacturing and sales process, enable you to plan accurately and efficiently in the first place.

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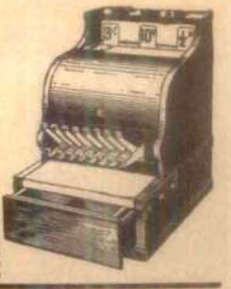

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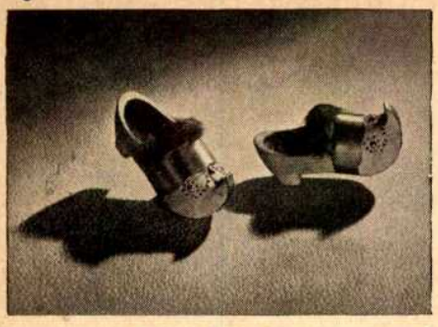

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The laws of progress have made a specialised world. Take selling by print. String together some words, throw in a picture, have the result printed . . . well, you *may* be lucky, but it's a wild gamble. But *study* your market, have a specialist write your "copy" (horrid word), put *Nickeloid* to work on an illustration visualised by your "copy" specialist, weave the components into an harmonious whole and have it printed by craftsmen . . . And, by all the powers! . . . you've got something that's *selling* your wares.

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P 552

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LIMITED

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Deputy Chairmen:
W. G. BRADSHAW, C.B.E.;
S. CHRISTOPHERSON

Managing Director: FREDERICK HYDE

Statement of Accounts
December 31, 1937

LIABILITIES	£
Capital paid up	15,152,811
Reserve Fund	12,404,799
Current, Deposit and other Accounts	497,796,590
Acceptances and Confirmed Credits	12,079,911
Engagements	8,650,035
ASSETS	
Coin, Notes and Balances with Bank of England	53,968,247
Balances with, and Cheques on other Banks	18,700,856
Money at Call and Short Notice	25,449,442
Investments at or under market value	117,386,191
Bills Discounted	30,625,876
British Treasury Bills	52,532,678
Advances to Customers and other Accounts	208,198,218
Liabilities of Customers for Acceptances, Confirmed Credits and Engagements	20,729,946
Bank Premises at Head Office and Branches	8,837,516
Other Properties and work in progress for extension of the business	843,533
Shares in Yorkshire Penny Bank Ltd.	937,500
Capital, Reserve & Undivided Profits of:	
Belfast Banking Co. Ltd.	1,755,707
The Clydesdale Bank Ltd.	3,141,173
North of Scotland Bank Ltd.	2,540,326
Midland Bank Executor and Trustee Co. Ltd.	436,937

The Midland Bank and Affiliated Banks operate 2,600 branches in Great Britain and Northern Ireland, and have agents and correspondents in all parts of the world.

Head Office: POULTRY, LONDON, E.C.2

The present maximum fine of £10, or where illegal employment is concerned £3, is raised (Section 131) to £20, or where the offence is continued after conviction, £5 a day, while there is an important new provision (Section 119) which makes a worker who wilfully interferes with or misuses any appliance provided for his benefit or who wilfully and without reasonable cause does anything likely to endanger himself or others, guilty of an offence.

Interpretation of Terms

The next two parts (XIII, XIV) deal with application and interpretation. The present distinction between textile factories, non-textile factories, and workshops will be eliminated, and all places subject to the full application of the Act will henceforth be known as factories. A dressmaker's establishment employing only one sempstress, in fact, will in future be technically a "factory".

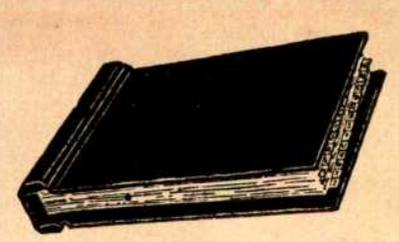
It should be noted, however, that one of the present distinctions between factory and workshop is retained, in that certain of the provisions (chiefly sanitary) will still be enforced by the local authorities in factories without mechanical power equivalent to the present workshops.

The definition of "factory", which will include what is now called a workshop, is but little altered, but the interpretation Section (Section 149) has been re-worded so as to clarify what have hitherto been ambiguous cases. As already stated, the field covered by the Act is also somewhat extended, notably through the inclusion of civil engineering works and cinematograph studios.

The Act in full can be obtained at H.M. Stationery Office, or through any bookseller, price 2s. 6d.

If I have now succeeded in giving you some slight insight into the significance of the new Act, I shall feel more than gratified. Its requirements, however, are minimum ones, and the full means of securing the health and safety of the worker can never be embodied in an Act of Parliament. Much, therefore, must always remain to be done, and further progress depends mainly on people like you concerned with one or only a few works, rather than on the Inspectorate concerned with 250,000 places.

The wide issue of hours of work is largely a political one. The other new provisions, however, are not formulated from the office desk—they are based on the experience of my Department accumulated over the last 36 years. There is, as I have already said, nothing revolutionary about them and they are already observed in many works.



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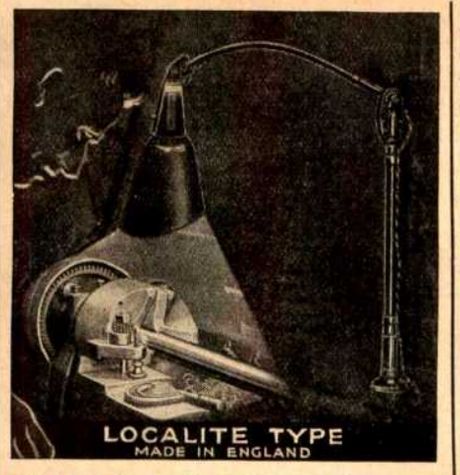

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"Localite" fitted with ample flex, adaptor, switch lampholder, vitreous enamelled steel shade and socket,

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It can merely list your products—or, it can present them in a way which commands attention and makes buyers feel that the firm responsible must be unusually enterprising.

If you are thinking of issuing a new catalogue, ask for our suggestions for making a real salesman of it–without obligation.

J. W. RUDDOCK & SONS
Printers and Advertising Consultants
LINCOLN
and at 3 Old Jewry, London, E.C.2

The main result of the new Act, however, is that they will have to be observed universally, and with what effect? Taking the safety provisions alone, I venture to prophesy that in five years' time our present accident rate (which is about 3 per cent) will have been reduced to not more than one-half, and the fatal accident rate to one-third, while the other requirements will eventually conduce to both better health and greater comfort among the army of nearly six million workers affected.

●

Up-to-the Minute Figures for Sales Control

(*Continued from page* 24)

calendar month, there will be four six-day buff cards, and one or two for three or four days, inserted on the Kraft sheet allotted for each agent.

On the sheet allotted for area sales there will be a corresponding number of green strips. These agents' sheets are comparable in nature to personal analysis accounts. Physical transfer of the Slip-Post cards from the "period analysis Kraft sheets" to the "agents' personal sheets" saves the considerable work of rewriting (and proving) the figures involved.

A blue-strip is inserted in each of these personal accounts on which the totals for the month are cast, by Comptometer, and extracted to a monthly sales analysis sheet, which is again cast and agreed with the monthly sales control total (Fig. 3). The result is that the sales departments are supplied with monthly reports showing the distribution of sales in values, quantities and sizes of machines, quantities and values of ribbons and carbons, and values of office supplies, typewriter parts, etc.

Interim Facts on Distribution

At interim periods during the month we are able to give information regarding the distribution of sales on any particular territory. The analysis required for the monthly reports is more extensive than is necessary for our financial accounts, but by collating the totals, we obtain the figures for posting the class ledgers.

The punching of the Paramount cards of the last day's sales of any month is done on the first day of the next, and sales analysis for the last period of the previous month is done on the same day. The totalling of the month's sales is then proceeded with on the second day and reports follow within two or three days of the close of the month.

Prior to the introduction of the Paramount card and Slip-Posting, regular monthly sales reports of this nature were not prepared, and it was possible only to give a report in the broad form of analysis required for our final accounts, this not being sufficiently detailed to be of any real value to our sales departments or for stock controls.

The Evolution of Modern Wage Paying

BY HAND
(Obsolete)

TINS
(Insanitary)

OPAQUE PAY ENVELOPES
(Sanitary, but no check and no security)

TRANSPARENT PAY ENVELOPES
(An improvement, but flimsy and insecure)

Lancaster's Pay Wallets
with Gummed Flaps
THE FIRST REAL WAGES CHECK

And Now—

LANCASTER'S AUTOSEAL PAY WALLETS

WITH AUTOMATIC RUBBER SEALING
The Modern Method

No damping required. They are a perfect wages check. Notes can be handled and coins checked without breaking seals and they cost less than transparent envelopes (average 8/6 per 1,000, according to quantity).

A UNIQUE OFFER. Test them at our expense.

Although in regular use by many local authorities, we can appreciate a natural hesitation to install a new system. On receipt of a request signed by responsible officer of business firm or public authority with coupon below attached, we will send you, entirely free and carriage paid, sufficient for one week's test of your pay roll.

Lancaster's Autoseal Pay Wallets
FREE COUPON FOR 1 WEEK'S TEST
(WITHOUT OBLIGATION)
To LANCASTER BROTHERS & Co.,
Fraudproof Works,
Shadwell Street, Birmingham, 4

Send free supply of wallets for one week's thorough test. The number of employees is ____

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Address .....
.....
Signed ..... *Office held* .....

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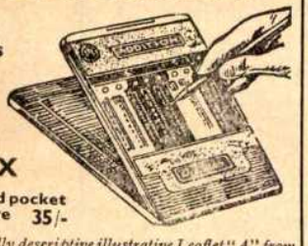

● *Write for fully descriptive illustrative Leaflet "A" from* K. BISSET & CO., LTD., Grand Buildings, Trafalgar Sq., London, W.C.2. (Whitehall 8275)

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About Our New Service . . .

HOME MARKETS *(See Opposite)*

November showed

No Recession In The South

This is one of the surprising discoveries revealed by our new series of Regional Indices, a part of the new BUSINESS service, *Home Markets*, which is explained below.

FOR 15 years the *Trend of Business* has been a favourite feature with readers of BUSINESS. Many have used it consistently for guidance on their own policies.

We are glad to be able to present it this month in an improved and extended form.

Hitherto the difficulty with all such reviews has been their general nature. Apart from employment, it has been possible to deal only with the country as a whole in considering most of the factors which influence business.

Scotland And Wales Have Own Indices

In the following pages we have tried to give detailed information on the situation *regionally*. By devoting two pages to colour maps we are able to print the actual number of unemployed and the change in the number of the unemployed, down to a single man, in no fewer than 78 cities and towns, thus presenting an extremely detailed picture of the changes in purchasing power up and down the country. Also the figures given are for *January*.

We have also revised the chart illustrating the 22 chief factors which control business activity: a comparison is now given with *both the previous month and the previous year*. Here, again, colour makes the chart more easily read.

Why Regional Indices are now possible

The level of business rarely moves in the same direction over the whole country. Between 1934 and 1936 Wales, Scotland, and the N.E. Coast failed to share in the revival enjoyed in the South and the Midlands. To-day the special areas are increasing in prosperity and purchasing power more rapidly than any other parts of the country. Yet there has hitherto been no easy means (outside unemployment figures) for the executive to assess the state of trade in one area as compared with another.

Our new series of five regional business activity indices provide the yard-stick necessary. Until a few months ago the task was impossible. The best national indices available are based on at least 18 different factors, each factor being carefully weighted. Three-fourths of these figures are not obtainable by regions.

Through the researches of Dr. C. E. Rhodes, however, a new technique was opened to us. Dr. Rhodes has proved that an index as accurate as, if not more accurate than, those normally prepared could be composed out of four of their factors, viz., employment, industrial motor vehicles licensed, electricity output, and building plans passed. Out of a total of 9½ points Dr. Rhodes allowed 7½ to the first two. We have followed a similar procedure.

For electricity output and building plans passed (both unobtainable by regions) we have substituted retail sales (now greatly enlarged in scope) and bank clearings, weighting them 1½ and 1 respectively.

Two Scottish Indices Are Charted This Month

In the case of Scotland and Wales, bank clearings, being still unobtainable, are dropped, the other factors being reweighted accordingly.

Notice how in Scotland prosperity has been affected by the recession in November, although this is not so clearly marked in London and completely unfelt throughout the South.

The Scottish index may be compared with that for Scottish Retail Sales on page 41, which again shows interesting differences, not merely in the long swings but in such things as holiday buying.

This work has been difficult: thousands of calculations were involved. It may be that there are still defects; we shall be glad to hear from any reader who has a definite contribution to make, either to our sources or to our technique.

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"QUIKWAY" CONTINUOUS FORM STATIONERY
"QUIKPART" CARBON LOADED SETS and
STATIONERY FOR MACHINE ACCOUNTANCY

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

FEBRUARY, 1938

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says an appreciative article in the February, 1938, issue of the "Red Barrel", the House Organ of Messrs. Watney Combe Reid and Co. Ltd.

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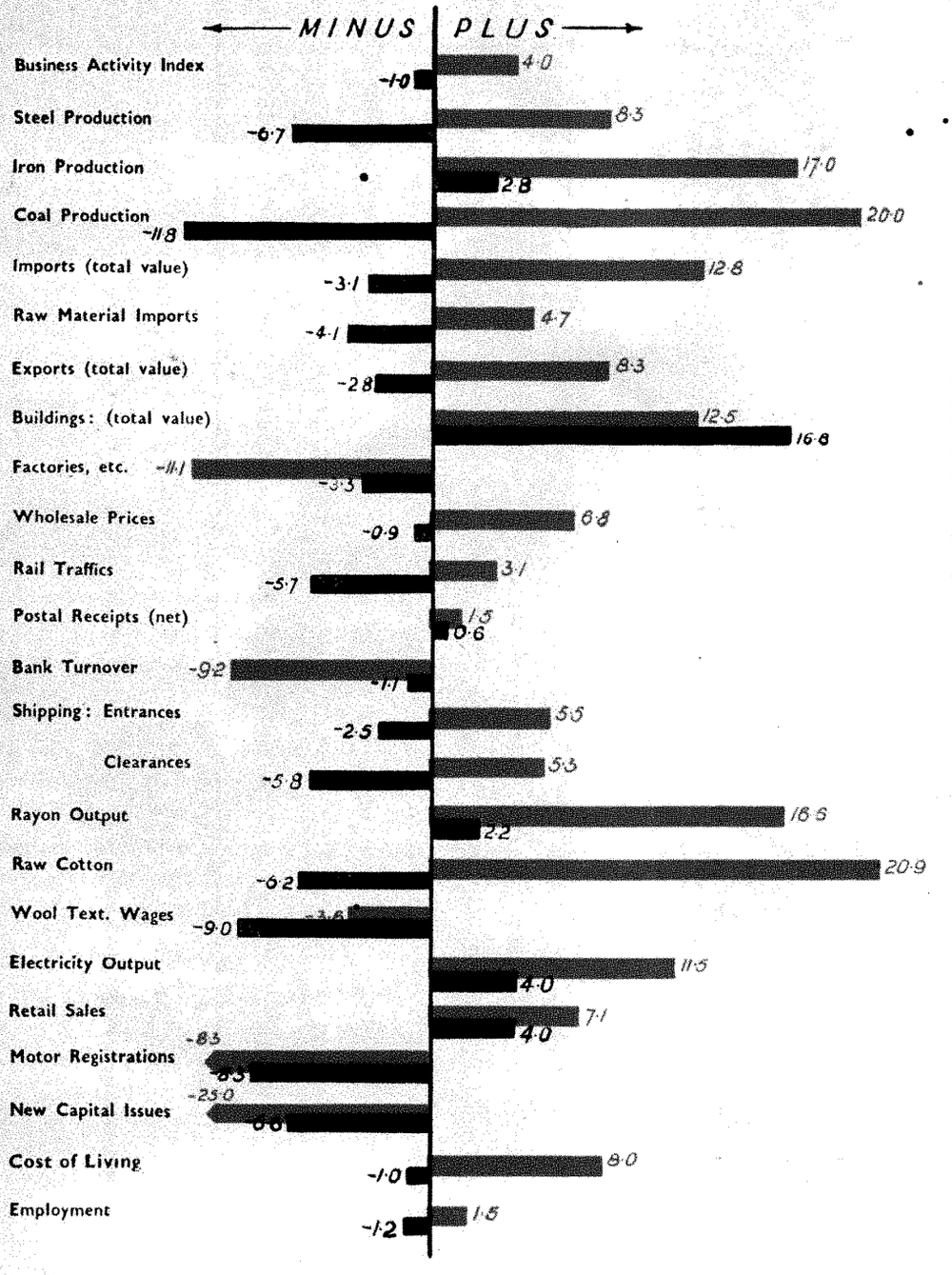
BUSINESS ACTIVITY FACTORS OF THE U·K

22 VITAL FACTORS



Outlook

BY CECIL

THE first business news of the year is a very mixed bag. The builders have distinguished themselves and disproved the prophets with a 12.5 increase in plans passed in December. Pig iron output made an equally unexpected record. The prices of commodities are steadier. Thanks to Italy and colder weather, coal sales are up.

New armament factories are rapidly reaching full production. Labour is becoming scarce in unexpected places. At Yeovil a new armament plant is making it difficult for the glove and collar people to keep their girl workers. Finally, in spite of President Roosevelt's big stick, American business men are more optimistic; rearmament may save the situation where all the planners have failed. So far the good news.

The sharp rise in unemployment is disconcerting. Apparently due to bad weather, it spreads to too many industries. There are now only 200,000 more people employed than a year ago. For the first time in years there were 92,000 more unemployed than a year ago.

Navy Pipes Tune To Shipbuilders

SHIPPING freights have slumped by around 30 per cent since September. Naturally orders for shipbuilding have fallen off with them, but naval construction is taking up some of the lag.

Rather unexpectedly, considering the success of the Show, car sales fell by 17 per cent in November, and smaller cars are being bought at that. The baby

How To Read The Chart:

Red bars represent latest available figures for December. Figures show percentage increase or decrease as compared with December, 1936. Black bars represent the percentage increase or decrease for December as compared with the previous month—November.

ALFRED BATES & SON LTD
The NATIONAL Advertising Service
130, FLEET ST., LONDON

Set Fair

CHISHOLM, M.A.

cars have had a surprising comeback.

Yorkshire is suffering a setback in the woollen industry. This is a batch of bad news. But we have grown so accustomed to wholesale good fortune that we may over-estimate fortune's disfavours at retail.

There are still many more men working than at a year ago. Further, wages have risen by £780,500 weekly. The miners alone are enjoying an additional £167,000 a week. True, the cost of living is up, but only by nine points, or around six per cent.

Better still, the problem of the Special Areas has been partially solved. For nine years South Wales has been the worst-hit area in the country. Actually unemployment in December was substantially lower than that for any December since 1929. This, thanks largely to the heavy industries, rearmament, and the Government's energy in locating new industries where they are most needed.

Radio Chiefs Tune In To New Markets

THE newer industries of rayon, aircraft, commercial motors, and electrical construction, are all booming at record levels. Only wireless has taken a knock. Fortunately, the youthful and resourceful chiefs of this industry are rapidly finding new fields for their energies, including television, electrical gadgets, and aircraft accessories.

Everything considered, our foreign trade is maintaining itself surprisingly, outside textiles. Here a definite fall in quantities is accentuated by falling prices.

Reading the Indices

For these new indices, the average business activity in each area during 1933 is taken as the base (=100). • For 1934-6, the indices are given quarterly, for 1937 by months. A full explanation of the indices is given on page 38.

BUSINESS REGIONAL ACTIVITY INDICES

FIRST SERIES

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68, GORDON ST., GLASGOW
12, LEEDS RD., BRADFORD
25, NEW BRIDGE ST., NEWCASTLE
74, GEORGE ST., EDINBURGH

ADMITTEDLY, the year's adverse balance is up to £442,782,000, which is over £97,000,000 above 1936. Nor is it certain that increased dividends, insurances, and shipping services, will balance this increase. On the other hand, no business revival can easily be negotiated without a temporary adverse balance. In this the upward swing of the cycle is running to form: and the Treasury will have no difficulty in offsetting effects of a net deficit by one of the several means available to it.

We are still at the mercy of three factors in particular: commodity prices, building, and rearmament. The future trend is still obscure, since each of these factors is governed by others. Of commodity prices the United States is the pivot, and there politics still affect enterprise closely. Building is itself apparently dependent on new rearmament factories and on new estates for armament workers. Rearmament, too, absorbs workers just so fast as the builders and tool makers can get factories ready.

This Price See-Saw No Fun For Experts

THE course of prices is causing deep concern to some experts. *The Economist*, for instance, points out that, though the cost of raw materials is falling, retail prices are still rising, while wholesale prices fail to fall. If this trend continues obviously our internal price structure will get out of touch with the purchasing power of our customers abroad, and exports will suffer. While admitting this, it is difficult to see how a nine per cent rise in retail prices of 1937 can be dangerous against a net rise of raw material prices by 15 per cent. In other words, there is no evidence that our internal prices are getting out of hand, as they have already done in the United States. There is little evidence, but the danger is there. Every business man knows that. The consumer is still a very shy bird.

Trade Prophets Cry In A Bewilderness

WHAT is happening in America is still uncertain. The economists, publicists, and the leaders interviewed by the popular Press, unanimously predict a minor up-turn in consumer sales for the spring and a general resumption of the upward trend in the autumn. But very similar people made quite similar predictions at the beginning of 1930. They were wrong then: they may be wrong now.

Perhaps it is not appreciated here how much too rapidly prices had risen by the beginning of 1937, nor what a shock President Roosevelt's new Bills gave the business world. Apparently the President had been elected in the expectation that he would slow down the pace of "national planning" and give business a chance to recover. Actually he is doing nothing of the sort. An expert tells me that new orders for capital goods had already begun to fall away rapidly in the late spring. This fear psychology filtered down through the public generally.

'Arms' U.S. Weapons To Bring Recovery

TO-DAY American business is waiting for Congress to reassume control of the situation and reverse the trend towards "planned economy". It seems rather a forlorn hope to the outsider, in view of the jarring agricultural and industrial interests represented by the Congress. However, rearmament, and the hope of inflation have done wonders for Wall Street. The future of prices, and therefore of British business, depends to an alarming extent on how far these forces can succeed in getting American business men to spend money on development again.

Judging by the new figures, the building revival is safe for several months. Notice that house building registers a 25 per cent rise over last year, chiefly in the North and in Wales. This confirms my prediction of provincial building booms over a year ago.

Taking all of the short- and long-swing factors into consideration, it is clear that a slight recession is in progress, but the degree of decline is so small as to cause little anxiety. There is no single symptom of a serious decline commencing. Indeed, the new building, steel and rearmament figures point to the recession being kept within narrow limits.

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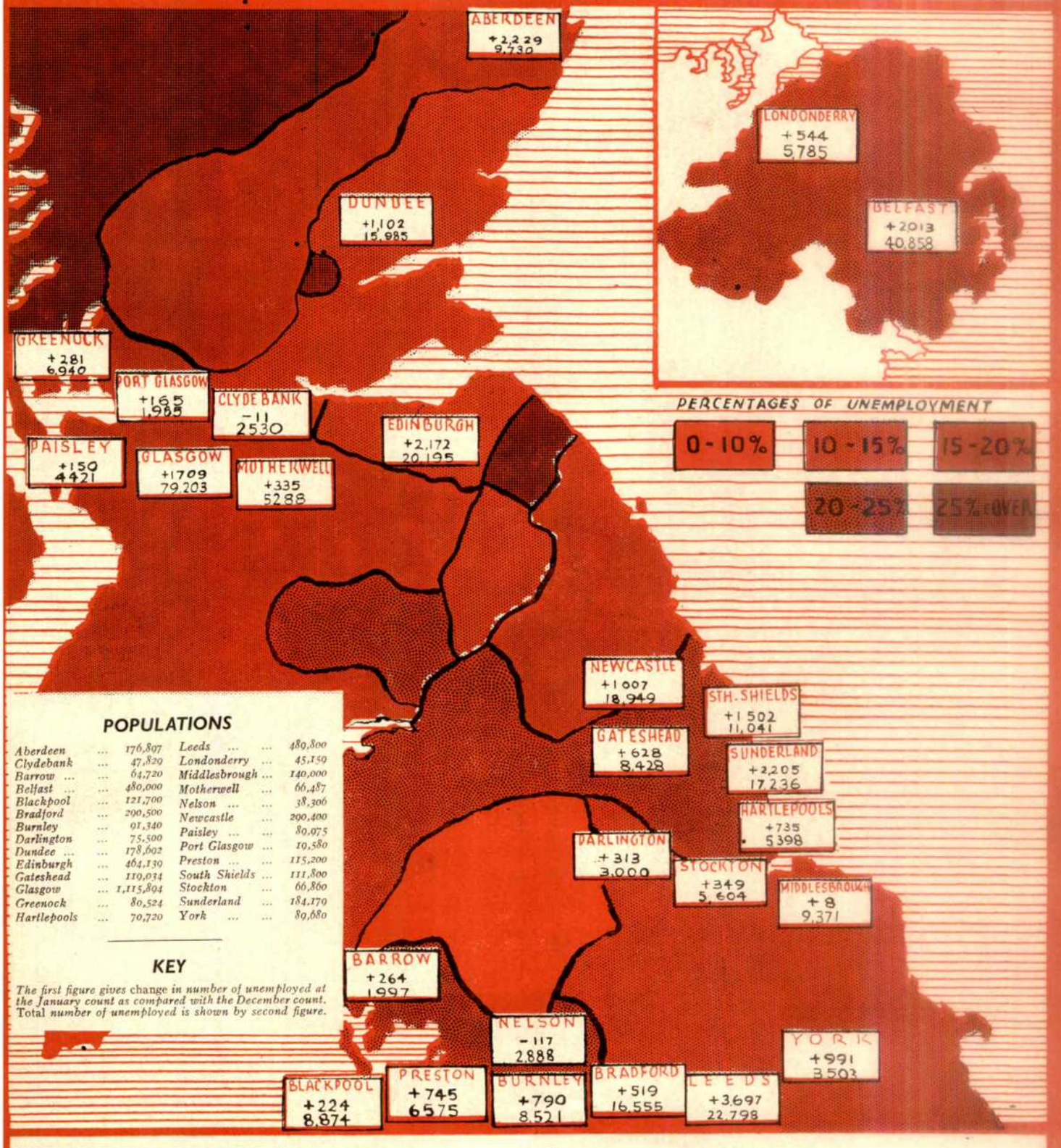
"BUSINESS" SURVEY OF HOME MARKETS

SCOTLAND and THE NORTH



POPULATIONS

Aberdeen	176,807	Leeds	480,800
Clydebank	47,829	Londonderry	45,159
Barrow	64,720	Middlesbrough	140,000
Belfast	480,000	Motherwell	66,487
Blackpool	121,700	Nelson	38,306
Bradford	290,500	Newcastle	290,400
Burnley	91,340	Paisley	89,075
Darlington	75,500	Port Glasgow	19,580
Dundee	178,602	Preston	115,200
Edinburgh	464,130	South Shields	111,800
Gateshead	110,034	Stockton	66,860
Glasgow	1,115,894	Sunderland	184,170
Greenock	80,524	York	89,680
Hartlepools	70,720		

KEY

The first figure gives change *in number of unemployed at the January count as compared with the December count. Total number of unemployed is shown by second figure.*

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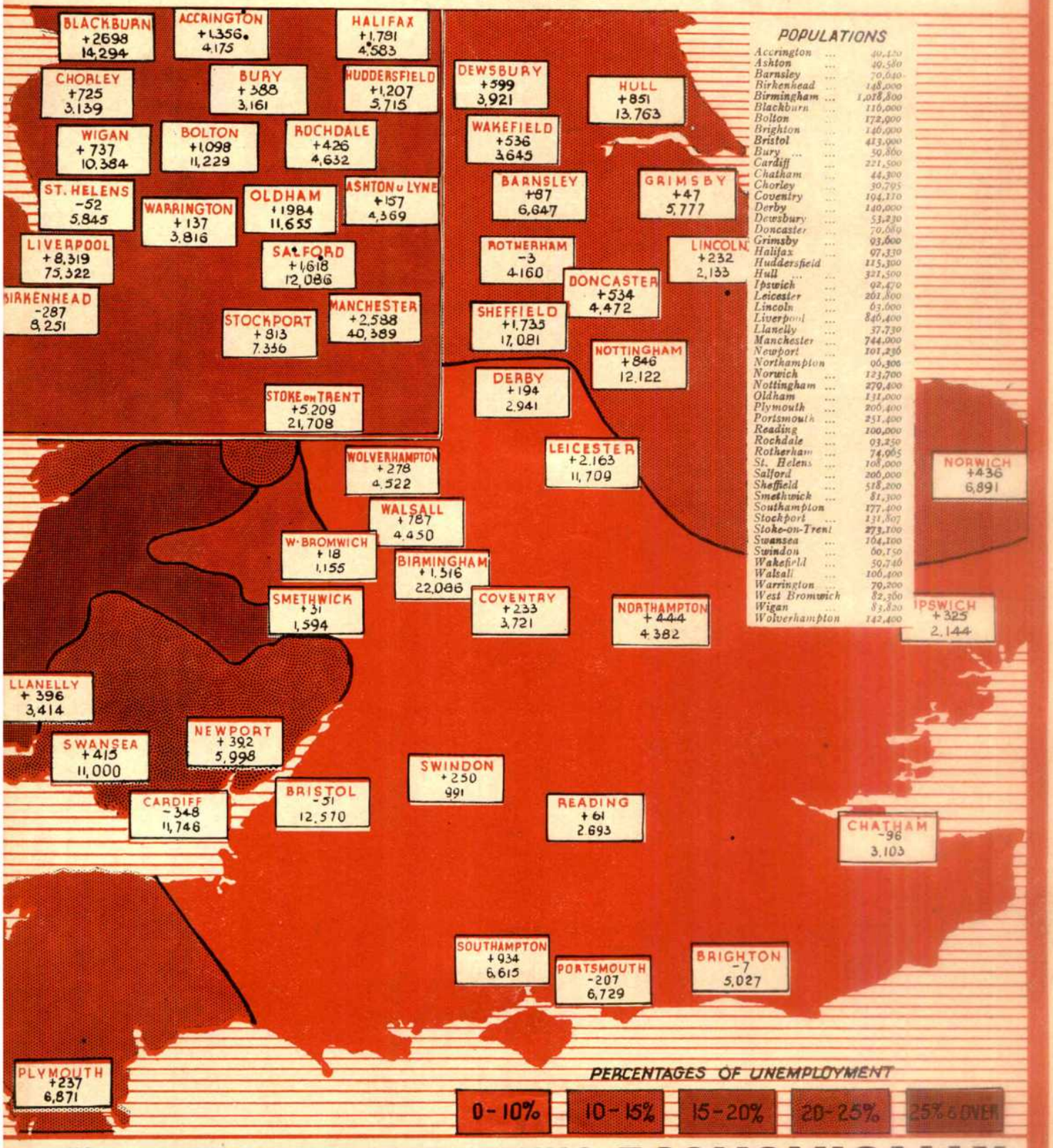
[For Key see page 43]



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Here is *NEWS* of Home Markets

Current Facts that will help in shaping your Sales Campaigns

GREATER LONDON

New Markets For Old is twist to London's latest inventions. Many-factoried I.C.I. have thought up water-repellent textile finish, and cheap way to get sulphur from waste gases—"Neoprene" is metropolis's rubber substitute, and a new plastic makes all kinds of lenses—Capping creators but not troubling pubs yet is London's first automatic beer-selling machine. Which suggests robot salesman can do day and night service for manufacturers of clothes, foodstuffs, personal type goods, etc.

Time To Sell Electric goods in London area never better than now—Housewives showing deep interest in cookers, irons, kettles, curlers, fires and other appliances—Instance of market's response: 300 women a day turned away at Hammersmith's electric cooking, etc., demonstration week. Associated electricity concerns stimulating extra interest by opening new showrooms.

Central Selling Idea is growing, latest effort being London Buying Centre, New Oxford Street, place for city's visitors to look over all up-to-date lines without touring all West End—In prosperity news is populous Battersea, where under 50 shops and business premises are empty. Hint here to check over retail outlets in borough, see you get full distribution but not overlapping.

SOUTH

Kent Is Spending over £1,000,000 weekly now on consumer goods. Growing, too, as S.R. carries out big electrification plans inducing more people and businesses to settle in area—Guildford is spending £200,000 in new buildings, helping keep its unemployment below 4 per cent mark—Wage increases totalling £12,000 a year is Portsmouth town fathers' news to marketing men, while a new aircraft firm is giving work to 1,000 and 14,000 dockyard workers are getting 3s. a week wage rise.

Southsea For Winter sales is aim behind £200,000 plan of sea front development, making resort year-round holiday centre—Watch Bournemouth district, where population is increasing 2,000 a year, holiday crowds increasing by thousands and £500,000 being spent on public works—Brighton, benefiting from railway electrification, is also getting tens of thousands more visitors a year, indicated by increase of nearly 2,000,000 in passengers carried by local transport 1937 over 1936.

More Cash Available for goods at Southampton these days. General Motors, Ltd., are to open new works on dockside estate, employ 600 men at start—Heinz & Co., are opening 15,000 sq. ft. buildings—Meyer, Ltd., have built 2½ acre works, offices, yards, and S.R. are erecting two model factories on dock estate—30,000 more passengers, 100,000 tons more goods landed at port in 1937 than in 1936. Fruit trade booming, citrus fruits alone being 1,000,000 packages up—Which all means more work and pay locally.

MIDLANDS

Five Shadow Factories in Midlands now starting production. Four at Coventry cost £2,400,000, one at Birmingham £700,000, and give work to 10,000—Ten military aerodromes now being built in area are costing over £100,000, most of which goes in wages—Over £2,000,000 being spent on conversion of Midland factories for re-armament work. All big iron, steel, foundry, machine tool, engineering concerns in area have arms work on hand totalling millions, absorbing production for next 2½-3 years.

£3,000,000 Power Scheme of Britain's Central Electricity Board is sanctioned, a start being made with the £1,500,000 extension to Birmingham's Hams Hall Station—Myatt & Co., Ltd., Birmingham razor makers, have booked a year's full factory output in getting the British army contract—G.E.C., Ltd., are taking on hundreds of workers to cope with expanding trade and to man their new 20,000 sq. ft. Witton factory for making steelclad mercury arc rectifiers.

NORTH

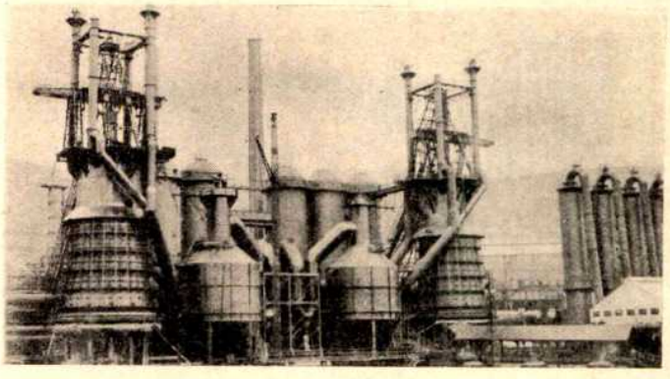
Mills Pay Profits again is good news to sales managers, meaning mill workers are "in the money". Nearly £500,000 more profits in 1937 than in 36 is the record—Elsewhere workers are getting plus cash. 6,000 at Chorley getting extra week's wage, 10,000 at Prescott and Helsby getting £1 adults, 10s. juniors, bonus, while Forsters, Ltd., St. Helens, have given 3,000 workers increases ranging from 1s. to 2s. 6d.

54,000 Out Of 60,000 looms in Burnley hum to-day, 10 new industries employ 3,000 persons and a new firm locating there are to employ 2,000 workers—Holden Vale's luck is in with a £200,000 company opening up to make "chemical cotton". Warrington's the home of a new £120,000 cable manufacturing firm. Mossley, Blackburn and Eccles are centres for new companies giving work to over 1,000 men and women. Vickers-Armstrongs works, Barrow, have taken on 4,000 men in past few months, now employ 17,000 and pay £50,000 a week wages—All of which marks out Lancashire for sales drives this year.

Improved Liverpool Market is resulting from £1,250,000 aircraft factory being built at Speke, work being given to 5,000 persons and £1,000,000 a year being paid in wages. Bolstering this improvement are 15 new factories on same estate, employing some thousands.

WEST & WALES

"New Spending Power" is South Wales's message, backed by 28 new factories, 16 extensions, recently established on Treforest estate and elsewhere in area. Eight more factories booked for building, score of firms asking about sites—About 3,000 men are to get work in or through Pencoed's new oil-from-coal, £650,000 plant. Orders worth hundreds of thousands of £s already booked—Caerphilly's latest resident is Welsh Metal Industries, Ltd., which firm is to build factory on 5½-acre site, to employ some hundreds.



Richard Thomas's £10,000,000 Ebbw Vale iron and steel plant is now producing, giving work to thousands. People paying off debts, eating more food, buying more clothes, refurnishing homes, etc. Here's a revitalized market worth selling to this year

SCOTLAND

All Space Booked is latest news of Glasgow's Empire Exhibition, opening in May. Aberdeen and North-East Scotland, taking this chance to publicize attractions, have booked 900 sq. ft. space for composite display; nearly 20 big electricity firms have taken space; Rubber Growers' Association has booked 4,000 sq. ft. for a rubber pavilion; biggest private pavilion will be that of Beardmore & Co., Ltd., and Colvilles, Ltd., which will have its own cinema, seating 250. Distillery reopening is good news from Clackmannanshire, where plant, derelict over 20 years, has been reconditioned and is employing 200 men—Glasgow's first newsreel cinema, seating about 600, is being built.

Trumping The Big Competitor's Ace

"This Area Try-Out Showed Us that We Could Beat the Closed Price Ring . . ."

From an Interview with
H. CRESSMAN
Managing Director
Igna Sparking Plugs, Ltd.

TO beat a fixed-price ring and to break our way into a virtually closed market were two of the big problems facing us when we decided, in August, 1937, to manufacture sparking plugs.

In six months we have made important progress. We have been successful. So successful, indeed, that we are now making the second enlargement to our plant and are planning schemes which will put Crown Plugs on the market on a really national scale. To reach this position we have had to strike out on vigorous and original lines.

But let us go back a bit in the story and deal with policy before we come to method.

Igna Sparking Plugs, Ltd , came into being largely because almost every country in the world except Great Britain had a sparking plug that sold for about 2s 6d. Mr. H. Cressman, our managing director, wondered why this condition existed. Were there special circumstances which prevented low-cost manufacture of plugs or low price selling? The answer was emphatically *No*. Yet the general selling price of plugs to the British public remained around 5s.

From the viewpoint of manufacture there were no outstanding difficulties Equipment and machinery for production were available both here and abroad. In the United States, for instance, top-quality plugs were being produced and sold for the equivalent of 2s. 6d. New types of machines for the work were available. We imported these machines.

In the meantime we saw that we needed the right type of skilled labour and a small, suitable factory located where we could draw supplies from close at hand and whence we could distribute the finished products economically.

We also felt that a new company making a product to sell at *half the price* of those established many years on the market would have some difficulty in getting public confidence. If, therefore, our concern could be given a "background" our chances of getting people to try the product would be improved.

The Midlands, being the big centre of the motor industry, had the right kind of skilled labour, and at King's Norton Factory Centre we found a suitable factory. It was in a central position for supplies and for distribution on a national scale; the rents, rates and other charges were economical, and there was room to expand.

Search for a background ended with the purchase of a sparking plug manufacturing concern at Wednesbury, near Birmingham This small firm had been established since 1919, and, although not widely known, it did provide (*a*) a background, (*b*) the nucleus of a skilled staff, (*c*) plant and equipment, and (*d*) a certain number of marketing channels.

Thus, from a decision, in August, to manufacture a sparking plug of performance equal to, or better than, that of plugs on the market, yet selling at half the price, we were ready to start production in October.

Our Problem : What Sales Policy to Adopt

Now came the two vital tests (1) selling and (2) repeat sales. We were sure that, once we got the plugs into a motorist's car, repeat sales would follow automatically But how to make initial sales? Through the usual channels of trade distribution—wholesalers to retailers? Straight to the retailer? Backed up by trade and general advertising, sales schemes, promotional work, and so on?

A little thought and investigation on our part had shown that we were up against many snags There was, for example, the usual indifference of many wholesalers and dealers to a new product There was a natural suspicion of a product selling at a "cut price". There was the disadvantage of not having the support of a national advertising campaign In any case, the plugs were unknown; therefore it needed effort to sell them. Inertia, hostility, indifference, heavy costs—these and a host of other reasons were marshalled against a normal scheme of distribution and sale.

Our conclusion was to go direct to the public. Time enough later to get distribution through ordinary channels But direct appeal was not, in our opinion, enough We had to make an attack as specific and arresting as the plug and its price For that reason we decided to *trust* the public, to give a 30-day trial period. If the motorist did not like the plugs he could return them within the month and pay nothing, if they were satisfactory he could send us the money.

Now this offer showed two outstanding points: (1) complete confidence in our plugs and (2) confidence in the honesty of the individual motorist. Such a sale-or-return offer stamped the plugs

Guaranteed plugs for half Ring price. This sales compaign opened with a direct-to-public appeal in Midlands area. Why Midlands was picked as test ground is explained in the article. This 11-inch triple is typical of the series used in newspapers. Note how copy, stressing new price, cites Britain as only country with high-price ring for plugs

as "good" despite the half price. For, as most business men know, you can breed distrust by charging too low prices. Our scheme forestalled the possible comment: "They can't be any good at *that* price."

We need hardly stress the point that to market a product successfully in this way the product must be all and more than you claim. We knew that Crown Plugs would stand up to any comparison. As we have shown, they are produced in an up-to-date plant and are designed in the light of the most scientific knowledge of the function of plugs.

All the plugs are identical for all makes of car, except for varying lengths of insulator. The longer the insulator the hotter the plug, and the shorter the insulator the cooler the plug.

Hotter or cooler plugs in the Crown range are identified by numbers on the body. Thus, motorists can easily pick out the correct plugs for their cars. And we knew from theory, experiment and test, that the right set of plugs in an engine would result in greater petrol mileage, better engine performance and a guaranteed plug-life of 20,000 miles

Direct to Users Through the Area Newspapers

We took the simplest way to reach the public—through newspapers. Triple-column 11-inch spaces were used in these newspapers: *Midland Daily Telegraph, Liverpool Echo, Yorkshire Post, Birmingham Mail, Glasgow Evening Post.* All advertisements splashed the price feature, carried copy explaining how the plugs were equal to the 5s. type and stated the savings in petrol, etc., that would be made. Illustrations of the plug were used. Coupons for clipping and sending in for the 30-day trial offer were also included.

Results more than justified our methods and policy. Some thousands of replies came in. Many people sent the money for the plugs; most of them paid up on receipt of the plugs or within a few days. The percentage of non-payers has been insignificant—a tribute to the honesty of the British public

The success of our scheme can be judged by the fact that we have been compelled to cease advertising for the time being We are now in the process of enlarging our plant for the second time in six months. When we have caught up with production and are ready for bigger sales we shall go into the national field.

Why the Midlands as Our Test Area?

You may ask why we did not start on a national scale and why we chose the Midlands and North for our initial campaign.

We knew we could not meet a national demand if response was as good as we gauged it would be. Furthermore, we considered it sounder policy to start on a modest scale, profit by any errors we might make, keep a firm control of costs, and thus build up the business steadily.

Now about the area. We chose it for several reasons. One of the most important was that it held an industrial population—people who knew the facts about factory production, who could readily understand how we produced the plugs and why they could be as good as claimed and still be sold at 2s. 6d. We preached to the enlightened. Generations of industrial experience had done the missionary work.

The area, too, was economical to cover, and it also contained a number of wholesale and retail outlets which handled the plugs. For we had, of course, the market channels used by the Wednesbury firm open to us. In addition, we did advertise in the trade Press, but this was done chiefly as a preparation for our distribution in the future.

The point we have reached now is one where it is possible for us to get distribution through the usual trade channels. Our development in this respect will be speeded up by use of general advertising. This will create demand for the plugs and help break down any price bias or closed market policy that may still be kept against us.

But these plans for the future are in a formative stage. Until we have got them completely worked out our present successful policy will help us to further progress.

Trade Taboos Flouted but Sales went UP, not *down*

BLACK jackets for books beat Colours

say **HODDER and STOUGHTON LTD.**

and Black wins records for Chocolate Packs

declare **Rowntree & Co., Ltd.**

TRADE taboos, like many other "don'ts", yield profit when broken by well-reasoned and intelligently planned action. We have just proved this by the successful marketing of our new "Black Jacket" series of books. Although launched only in November last, we are already reprinting some books of the series and are planning to publish others.

Let us confess that when the scheme was first discussed many of our executives were doubtful about the colours, black and white. The titles? Yes, they were good The price? At 2s. a volume they were excellent value. But the *black jacket* idea . . many wise heads were shaken in doubt.

These Alleged Prejudices were Against the Black

A black jacket was a trade taboo The colour was funereal. Retailers wouldn't give good displays to such a series The public wouldn't buy. No firm had done it before. The old practice of bright, cheerful colours was essential if we were to get ahead in a crowded market and against knife-edge competition.

Just as ordinary businesses have staple lines, so have we staple books—the kind which we know will always sell in sufficient quantities to make a profit It is on these that we rely, so to speak, for our bread and butter.

Naturally, our policy is to use these staple products judiciously. We must not overwork them. We must not bring them out in various editions that clash.

For example, the flood of cheap editions of every kind of book that has swept into the market in recent times has created a special situation. It has brought about intense—and in some measure uneconomic—competition, a competition that is largely in the field of staple products. It affects, therefore, our steady profit lines.

For this reason popular price editions of steady selling books may not be so successful as in the past. We saw, therefore, that (*a*) our new cheap series must be excellent value, good enough to attract buyers from the mass market for the cheapest books; (*b*) the range of the series must be wide enough to appeal to a discriminating and well-read public, (*c*) the series must be marketed in a way that lifted it out of the ordinary.

With these factors the success of the series, therefore, comes back to the colour of the jacket. The director who put forward the scheme was confident that, trade taboo or no, the dramatic quality of the black and white cover would (1) lend itself to impressive display by retailers, (2) arouse the curiosity of the occasional as well as the regular reading public and (3) be so different from anything in the book market that it would make the books familiar as a series.

To date, these reasonings have been correct. The series is already a success.

We may add that selling methods and distribution have been normal. We have not broken with tradition in those respects. The special condition of the market and how we beat it by using the forbidden colour is the interesting part of the story. But, as you have seen, such a break with accepted practice and belief has been carried out on a sound basis. The black covers served

to put over a good product that was first-rate value for money.

Black Stands Out Amid Confectionery Colours

While the black jacket was the first defiance of a book trade taboo, a chocolate manufacturer was an earlier adventurer.

Rowntrees' *Black Magic* chocolates, in their handsome black cartons with just a touch of white relief, caused quite as much flutter in the confectionery business, where brilliant colourings and pretty-pretty designs had held the field since chocolate was invented.

But Rowntrees had a good argument to stockists who were sceptical of this flaunting of tradition. They stressed the point that nothing in any confectioner's shop could give such a contrasting and eye-catching display as *Black Magic* cartons.

And the trade saw the point had strength. Among the kaleidoscopic masses of competitive products *Black Magic* would stand out in dignified isolation.

Sales, instead of flopping, soared in every type of district. And after the revolutionary brand had been launched for some weeks retailers declared that this chocolate was one of the very few that customers asked for *by name*—a sure sign that popularity of the brand had "clicked".

Marketing TRENDS

By the MARKETING EDITOR

Key Figures Mostly Give 'O.K.' to 1938 Markets . . .

DESPITE set-backs in some industries, most key figures still point to continued prosperity, promise well for months to come. Take a few examples: business activity is running 4 per cent above that of year ago; iron, plus 17 per cent, steel, plus 8.3 per cent, and coal, plus 20 per cent, show satisfactory increases; imports up 12.9 per cent, exports up 8.3 per cent, building ahead 12.5 per cent, rail traffic increase 3.1 per cent, are all encouraging rises.

Latest retail sales figure shows a rise of 7.1 per cent. Reports on recent trading are good—above last January's sales, most retailers claim.

Disturbing set-back is that of motor industry. New registrations show a 13.3 per cent decline.

o

Hush Methods Help Small Firm Enter Shut Markets

STARTING with little capital, unknown product, no organization but a good knowledge of the market concerned, could you sell and survive in a monopoly field? It can be done. It is being done by a small firm in sugar trade. They are selling a brown sugar that is made in a special way and has specific food values not retained by ordinary sugar.

Outwitting and hoodwinking the big firms is the secret. Tom Thumb in giant land is the story theme; not merely survival but growth, the problem.

From the cane on plantations to sugar cubes in café cups, sugar is within the grasp of well-established concerns. Few moves can take place without their knowledge. Any menace to the market can be met immediately. Problems, therefore, were: (1) to remain unobtrusive;. (2) to avoid the overwhelming competition; (3) to establish and grow up in some secluded part of the market.

o

Sections of Stronghold Fell to Triple Approach

THESE problems were policies for the Tom Thumb sugar firm. They launched the product into the "health foods" market. By so doing they attracted little attention, avoided heavy competition.

Approach to sales was triple: (*a*) reliance on specific food values of the product; (*b*) personal letters, followed by calls on health food shops; (*c*) discreet appeal to doctors, clinics, editors of health journals, to test and recommend the sugar.

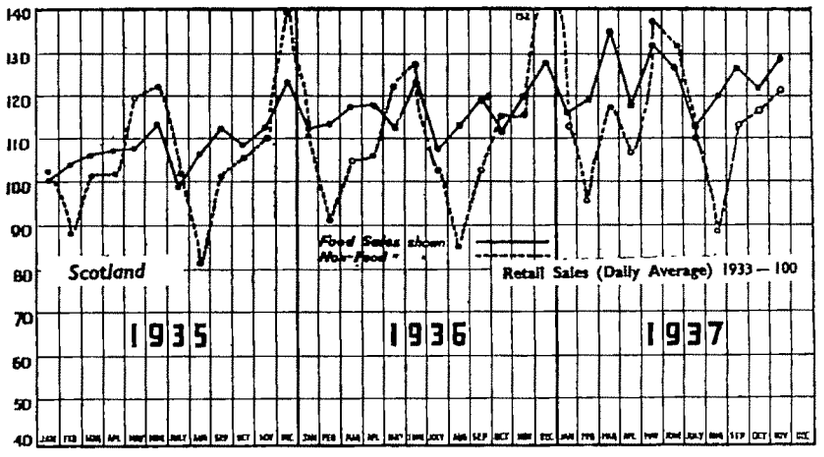
All points, you see, that help segregate two or three specific sections of the sugar market yet do not need the making of much marketing noise.

o

Giant Slaying is Made Simple by These Plans

TWO years old, this policy and attack on the sugar stronghold. Results? National distribution through one-third of possible health store outlets; 20 per cent success in clinic recommendations; 15 per cent of doctors approached (apart from clinics) now recommending the product; 350 per cent increase in sales last year over those of 1936. Hundreds of inquiries, resulting from published analyses in health journals, were given to dealers near source of inquiry.

Here is progress—and a lesson in marketing If you are to beat a monopoly your product should have specific, outstanding qualities. Side-step competition: that is a key rule. Sell first to the market which *must* readily respond to your goods. Select it for this reason first; secondly, because it allows cheap, quick distribution and sales build-up; thirdly, because it can be worked



How to Read This Chart

MARKET investigations of Scotland reveal that conditions differ a lot from those of the rest of Britain. In provincial England and Wales, for instance, food sales are heaviest in February, March, August, September, October and November. In Scotland the peak months are pronounced: June, September and December. Significant fact, this, to foodstuff manufacturers.

Take non-food products. Peak months are June, November and December. Notice that June is good for food and non-food sales. Why? Many Scottish folk take holidays at this month Visitors, too, flock in. Weather, also, is an attraction. D & K Bartlett's weather records show this. In 1936, for example, the "best weather in Great Britain" was in Scotland.

Looking broadly on the market, upturn in food sales starts from January and reaches a peak in June; for non-food sales the climb starts in February, reaches top in June. Downswing in sales of non-food takes place in July and August, July alone for food. Then both classes of goods sell in increasing quantities till December, except food sales which lag in October.

In March, 1937, good weather, Easter and earlier Coronation visitors helped swell trade in all classes of goods. There was also a noticeable rise in May, Coronation month.

Exceptions to general trends are explained vividly by weather Take, May, 1936 Food sales slumped Why? Weather, although warm, was foggy Not a month to stir appetites Then in November, same year, non-food sales lagged. Weather was often very foggy, followed by heavy winds Not shopping weather.

Scotland is probably more affected in sales when weather is good or bad than other parts of the British Isles Long-range weather reports will help you solve this marketing trouble.

quietly, without drawing withering fire of wealthy competitors.

John Public Says 'No' to Car Makers Big 10's Push

TURN now to watch the rich and vigorous car industry being rebuffed by John Public. Here is a pill for worshippers of boost and boom to swallow: car sales are going down. November registrations show 13.3 per cent drop on November, 1936, figures (20,645 against 23,801). Worse still, 10, 12 and 14 h.p. car sales are going down. But 8 h.p. sales are going up. Almost a third of new registrations, passenger cars, are Eights.

This has vast significance. Motor car industry's millions of £s are behind pressure to sell Tens. Lavish costs have gone in experiment, design and production. Readers know ("The Battle of the Tens", BUSINESS, December, 1937) fortunes have gone in new plant, huge advertising, showmanship expenditures.

Conclave of motor magnates said: "82,000 Tens sold last year, it must be 95,000 this, retailing at £16,000,000, factory turnover of £12,000,000." And the drive started with a glittering Olympia.

Mind-Peeping Marketing Men Read Wrong Signs?

IF propaganda, display, argument and every other sales persuasion used by the car industry fails to stem the trend back to 8 h.p cars, what does it prove? That marketing methods are wrong? Public lack confidence in the future? Not the right product?

Sales of Tens have been rising for some years, carefully nursed by motor car makers. That seems to answer all three queries. Obviously, no single factor is to be blamed. Even if sales have been forced, it proves methods successful to a point.

Hostility to price rises may be the key to this set-back. Which suggests faulty reading of public mind. Outstanding in recent months has been public's refusal to pay even slightly higher prices if avoidable. A major problem, this, facing most consumer goods manufacturers.

Management TRENDS

(*Continued from page* 10)

thinker, resourceful and widely experienced, not only in the technical details of his own trade but also in the ramifications of business generally.

HIS actual job is to smooth away any obstacles that may block the supply lines of raw materials between the producer and his own firm as consumers.

The moment any hitch threatens in the delivery of any order this executive immediately starts to trace back along the line of supply and to find the hitch. He may discover that the transport service is not being properly loaded at the rail head, or that the supplier cannot get railways wagons, or that the supplier is being held up by some of *his* suppliers. Or he may discover a price disagreement somewhere, or a plant breakdown, or a strike

It is possible to visualize a hundred contingencies; but, whatever and wherever the hitch, the executive chaser has a roving commission to travel right to the source of it and to negotiate at once with responsible men at the trouble end.

THIS firm has found that far better and quicker results have been got by this executive "chaser" than were formerly obtained when employees of the order department did their routine telephoning about delayed supplies. By reason of the fact that the executive has freedom of movement and the *status to approach* top-line men he can get straight on to trouble sources without being hindered by the hedging and alibis of irresponsibles below.

THE above, of course, is purely an emergency measure, but, as a director of the firm emphasized to us: "It has opened our eyes to the ultimate economy of using a highly placed man, *with the right qualifications*, for more liaison work between a manufacturer and his contacts outside. I think that businesses could be made to run more smoothly if the difficult situations that arise sometimes with competitors, distributors, agents, and even single customers were handled by bigger calibre men than are usually sent out on these jobs."

ARE YOU ERT?

It is our business literally to create *atmosphere*—to make *air* "just right" for erts and inserts—for humans and for dead materials.

FOR MATERIALS—you have your own problems—air needs to be just right—it needs to be controlled—not too hot, not too cold; not too wet, not too dry; not too fast, not too slow; *it needs to be clean.*

FOR HUMANS—well, humans can stand a lot; but if you have any ideas on Efficiency—or Keep Fit Campaigns—or Working in Comfort—or Asthma or Hay Fever—why, then, pure air is cheap; and bad air—dirty uncontrolled air—is expensive.

We would like to discuss your problems. May we have the pleasure of hearing from you?

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INDUSTRIAL BIRMINGHAM
BUSINESS
Industrial Site Survey No. 5

THE CENTRAL MIDLANDS

Home of 1,200 Different Trades

Birmingham Has 8 Big Reasons Why It Is A Factory Centre—

BIRMINGHAM is such an outstanding example of the might and complexity of a modern industrial centre that it is magnetic in its power to attract new factories. The area today is an almost automatic choice for location of dozens of industries, yet that happy position has been achieved without specialization in any one field. The full force of this fact is shown by the 1,200 different trades carried on in the area.

The good fortune and foresight of Birmingham in developing its industrial life upon such a wide basis has been possible through a number of factors. They can be summed up under these heads: (1) nearness to all British markets; (2) first-class road, rail, water and air transport facilities; (3) cheap supplies of electricity, gas and water; (4) abundance of every kind of skilled, factory labour; (5) nearness to supplies of raw materials; (6) available buildings and land for rent or purchase; (7) supplies of semi-manufactured goods, factory plant and equipment on the spot; (8) a wealthy doorstep market.

Diversity of Industry A 'Synthetic Reason'

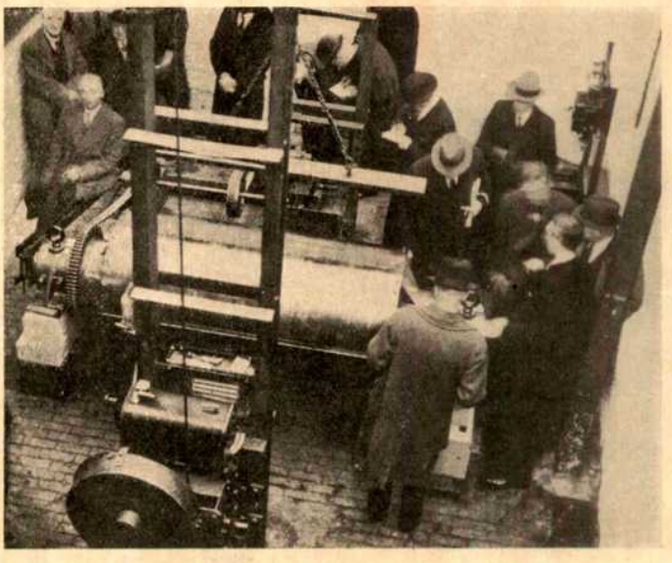
There are a number of other reasons which have also had some influence. Such considerations as the co-operation of local authorities, housing for workpeople, ideal conditions in which to build factories—these and many more have played their part. With the big "reasons why" mentioned they have helped to build up that diversity of trade and interests which is now one of Birmingham's main attractions in the eyes of industrialists.

This diversity cannot easily be overemphasized. It is far reaching in its effects. To mention only one, but a real factor, it gives the area an economic stability which is of all-round value to the business world. In slump or boom there is always activity in Birmingham factories. If a thousand different trades are depressed there are the other 200 which may not be affected. Even at the worst of the recent depression there were scores of factories in the area which continued to work full time. That must be so with such "industrial spread". And that means much to the progress and development of the city and its in-

1. *Central for Home Markets*
2. *A.I. Transport facilities*
3. *Cheap gas, power, water*
4. *Wealth of skilled labour*
5. *Nearness to raw materials*
6. *Buildings & land to rent*
7. *Supplies of plant, goods, etc.*
8. 2,000,000 *doorstep market*

dustries, and to the value of the doorstep market.

If any proof of the worth of diversified industry is needed you can find it in the depressed areas. The big reason for their collapse was their reliance on two or three major industries—coal, iron and steel, shipbuilding, to quote the well-known examples. And every business man knows that, generally speaking, the collapse of a district adversely affects all businesses in that district. That is why the Government is following a policy of attracting a variety of industries to the stricken areas to-day. It is an attempt to give them an economic security which Birmingham built for itself.



Industry for industry is one of Birmingham's attractions to the factory owner. Here's an instance of it. Illustration shows the world's largest magnetic separator (for separating iron fragments from cane sugar) made in a Birmingham factory

Now let us look at the reasons which have brought so many factories to Birmingham. Unquestionably, nearness to markets is of front-rank importance. The city's central position is of strategic value. To the south is London; to the south-west, Bristol and South Wales; to the north-west, the Cheshire and Lancashire industrial areas; to the north-east, the Yorkshire, Durham and Northumberland markets. And all around is the big and wealthy Midlands market. Such a central position neutralizes distances to all the main centres of population in the country.

London is only two hours by rail from Birmingham. The road journey can be done in a little longer time. Thus, the London docks are, in effect, a port for Birmingham. So are the other big ports. Liverpool, Manchester and the Mersey are only 90 miles distant. Bristol and the ports on the River Severn and the Bristol Channel are about 100 miles away, as are the South Wales docks. Hull, Grimsby and Southampton are 130 miles distant.

The value of this nearness to important centres and to most of the big ports is shown in a number of ways. The head of one firm, for instance, told me that the ease with which he could distribute his products to customers in London, Bristol, Sheffield, Manchester and

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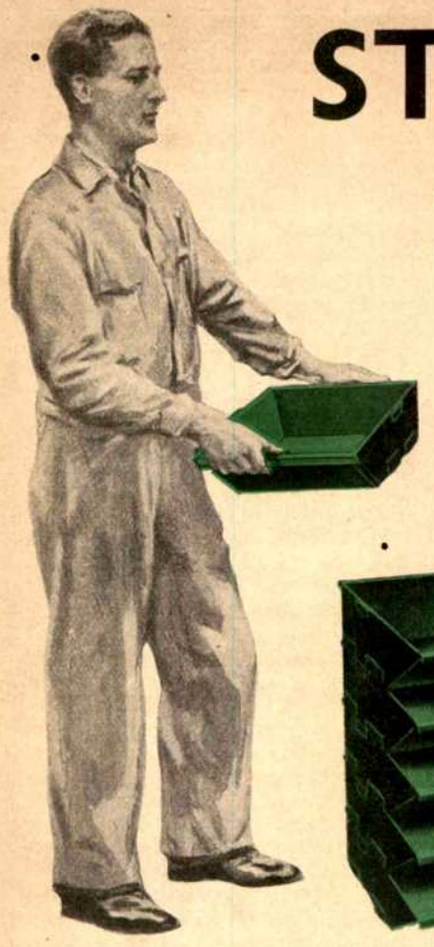

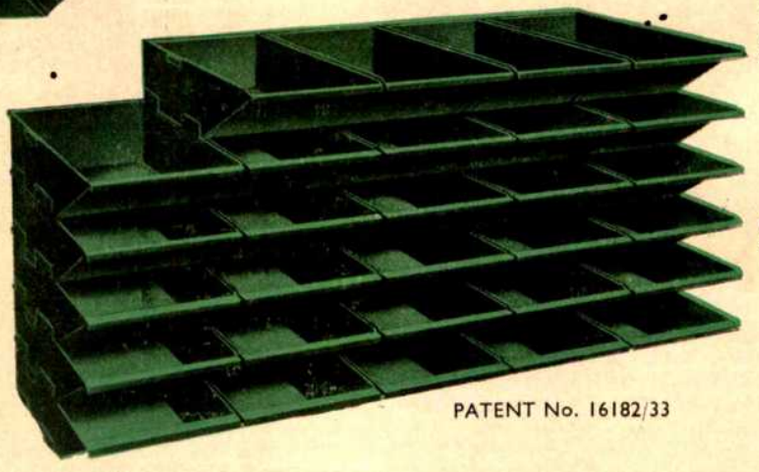

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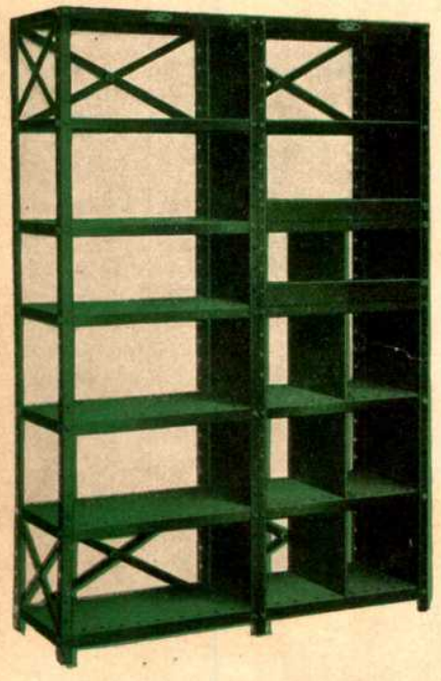

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other parts of Yorkshire and Lancashire, not only saved time and lowered distribution costs but enabled him to keep stocks at a minimum. He is able to keep free by this means several thousands of pounds capital that would otherwise be tied up.

and night to deliver goods to all parts of the country. A great number of firms, of course, find it economical to operate their own fleets. One company director I talked with told me that all their outward and most of their inward transport is handled by their own lorries. This

Birmingham's fitness as a business and industrial centre is aptly illustrated by the records of local firms. This picture shows the main office at W. & T. Avery Ltd.'s new Digbeth headquarters. The offices are on the site occupied in 1730 by the firm's founder

Both L.M.S. and G.W. main lines run through Birmingham. They give express passenger and goods train services direct to all the big centres such as I have mentioned. The free delivery area of the railway companies takes in almost the whole of the city's 50,000 acres. The system of goods depots, wharves and warehousing is organized on a scale to take care of the needs of any manufacturer in the area.

Birmingham was a pioneer in town-planning schemes and among the first to provide for main arterial roads 120 feet wide and secondary roads 80 feet wide. This construction has naturally helped the city in its development as an industrial centre, a point which is proved by the 43 per cent increase in the city's traffic during the past seven years.

Main roads radiate from Birmingham like spokes from the hub of a wheel. Traffic can flow swiftly into, out of and through the city. Neighbouring and distant centres can thus be reached by direct routes. Typical of the roads that aid this rapid transport is the Birmingham-Wolverhampton highway, 100 feet wide. Its construction has cut out the need to travel through such congested areas as West Bromwich, Wednesbury and Bilston in the journey to Liverpool, Manchester and other north-west points. To the south-west there is the double-carriage highway, the Bristol road. Another example is the well-known London, Coventry, Birmingham highway, one of the busiest roads in the kingdom.

Further development of the city's road system is now under way. Ring roads are being built to link up all the outlying industrial districts and suburbs with each other.

Naturally, Birmingham's favourable central position and all this road development has encouraged the growth of transport companies in the district. Fleets of lorries leave the city every day

company even brings in its own coal by truck.

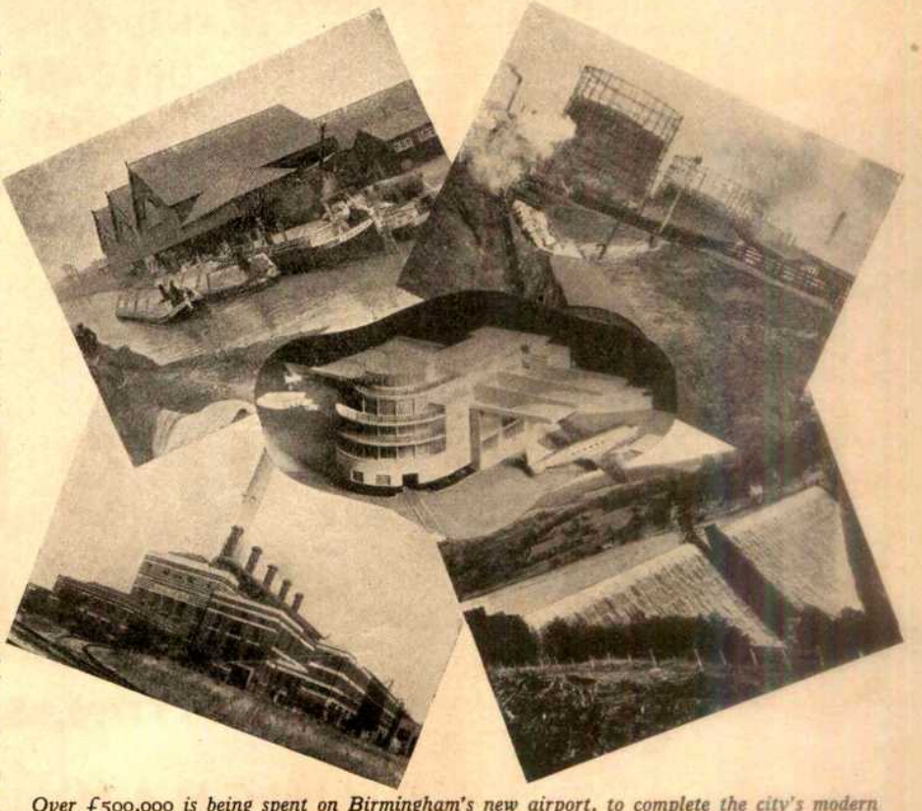
For slower traffic there is water transport. Here Birmingham is in a central position to the main canal system of England. The system takes the form of a giant St. Andrew's cross over the country. Its four ends touch London, Liverpool, Bristol and Hull. Birmingham stands where the four arms of the cross converge. Thus, there are direct water routes to all the centres mentioned and a link-up with all branch canals.

In the immediate vicinity of the city there is a network of canals 160 miles in length. These waterways provide means of economic distribution throughout the Midlands.

Movement of freight along the canals has been speeded up with the use of powered barges, and, therefore, this means of transport continues to play an important part in the industrial affairs of the city. Millions of tons of copper, tin, lead, zinc, coal, timber, cocoa beans, sugar and other raw materials and foodstuffs are carried into Birmingham each year via canal. Recently improvements in the canal system have been carried out. Over £1,000,000 spent on the Grand Union Canal, for example, has made its route from the Midlands to the River Thames navigable for large-capacity, motor-driven boats. On the Severn motor vessels of 130-ton capacity get within 22 miles of Birmingham.

Transport has taken to the air to-day. The importance of this new means of moving people and goods rapidly over big distances is growing with the development of the commercial type of aeroplane. And once more Birmingham's geographical position is of distinct advantage. It has many claims to become the junction of internal air lines in this country as well as a terminus for Continental lines.

At present regular services from the city are operated by Railway Air Services, Ltd., and other companies. The time-table schedules flights to London, Liverpool, Manchester, Belfast,



Over £500,000 is being spent on Birmingham's new airport, to complete the city's modern transport services. Now, centre of the canal system, served by two main railways and a network of up-to-date highways, factories in the area are strategically placed to organize in- and out-going traffic to save money and time

Glasgow, Nottingham, Cardiff, Bristol, Plymouth, Portsmouth, Blackpool, Torquay, Teignmouth, Brighton, Hove, Worthing and the Isle of Man. Services connect with the Continental air lines. Goods, as well as passengers, are carried. Special 'planes can be hired at a moment's notice.

An important development is the building of a 700-acre aerodrome about

Diversity is a key to Birmingham's industrial strength. Local factories turn out complicated manufacturing plant, jewellery, office equipment or such articles as shown here—Belisha beacons

six miles from the city's centre. When completed later in the year this trunk airport will be the most up to date in the country and will, it is known, attract new air services to Birmingham. The administration buildings, of modern "functional" design and built of reinforced concrete, are already being erected. The equipment and facilities of a great airport are to be installed.

The essential services of power, gas and water have, of course, grown as Birmingham has developed. They now form an attraction in the eyes of most manufacturers. Take the electricity supply, the largest municipal undertaking of its kind in Britain. Output last year exceeded 712 million units. Over 175,000 consumers take the current, while mains laid now total 2,513 miles. In the past six years the total of consumers' apparatus connected to the system has been doubled, the figure now being equivalent to 645,000 kilowatts.

Two big power stations, both selected under the Central Electricity Board's grid scheme, provide ample supplies for any likely additional demand for years to come. Recent extensions at the Hams Hall station have doubled its size and output. Further additions planned will bring the generating capacity of the station up to 240,000 kilowatts.

The cost of electricity is favourable, rates varying down to .25d. per unit. The price depends on the nature and extent of the load. Special low rates are available for bulk supplies to industrialists.

The gas department can make even a bigger claim than the electricity department—it is the biggest municipal gas undertaking in the world. Output last year totalled 15,000,000,000 cubic feet. Of this about a third was used for industrial purposes.

A valuable free service to manufacturers is provided by the Industrial Research Laboratories maintained by the Gas Department. Here work on all types of heat processes is being carried out constantly. The laboratories are fitted with modern equipment for experimenting and testing. Manufacturers can, and do, go to the laboratories for free advice and help on their particular problems of heat processes. The laboratories also find out for them the exact production costs for this type of work. A number of firms told me that they had received from this source help and service that had saved them thousands of pounds.

Prices for gas vary according to consumption. This sliding scale enables gas to be bought at 1s. 9d. per 1,000 cubic feet when total consumption exceeds 8,000,000 cu. ft. The cost per therm at this scale works out at 4.42d. At the other end of the scale the charge for supplies ranging between 5,000 and 25,000 cu. ft. is 3s. per 1,000 cu. ft., or 7.58d. per therm. The rate decreases until it reaches the 1s. 9d. charge quoted. All prices are less 5 per cent for prompt payment.

There are not many big industrial centres which have never had to restrict use of water. Birmingham claims that distinction. Since the water undertaking came into being the resources have always been ample for every need. Over 31,000,000 gallons daily are used, while the possible daily supply totals 75,000,000 gallons.

The undertaking is municipally administered. The supply comes from Mid-Wales and is carried by pipeline 70 miles to the city. The area supplied totals 120,000 acres and includes such adjacent local districts as the town of Coventry, an area of 68,000 acres. Additional pipelines are being laid as the demand for water increases. Altogether to date Birmingham has spent £7,500,000 on its water scheme.

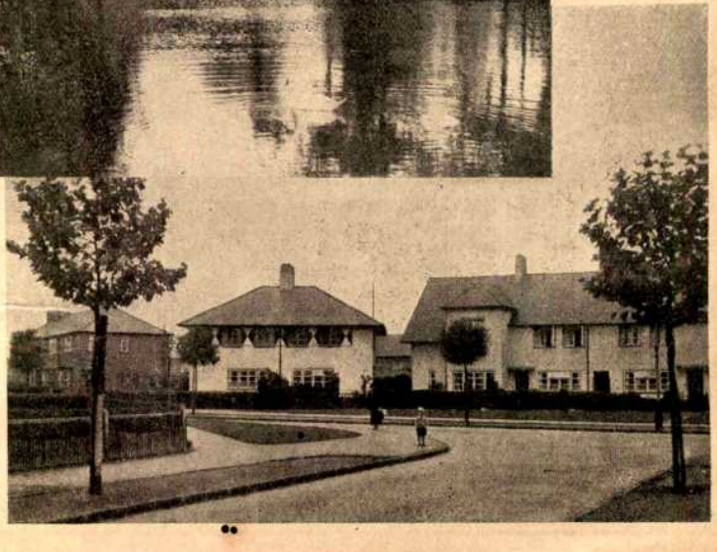
Analysis shows that the water is pure and soft. The comparative absence of calcium content enhances its value for all industrial as well as domestic uses.

Local Workers Have An Inherited Skill

The skill of Birmingham's workers is too widely known to need any proving. The wide variety of trades needs a diversity of labour which cannot be obtained in most industrial areas, and that is where the city scores heavily. Its workers have advanced in skill in 1,200 different trades since the time Birmingham grew from a small market and trading town to a metropolis of modern industry. Whether in delicate jewellery work or in heavy foundry work, there are skilled specialists available in the vast pool of labour that has accumulated in the area.

An analysis of the employment in the leading industries of the area's 463,000 insured workpeople shows what wealth of labour is available for incoming manufacturers. Here are the approximate chief figures:

Industry	Number employed
Metal	... 52,500
Motors, etc.	... 45,000
Distributive	... 42,000
General engineering	... 22,000
Building	... 19,000
Jewellery	... 16,500



Working and living conditions are always being improved. Over 90,000 houses have been built since the War; 34 public parks and 93 recreation grounds give the city over 4,000 acres of open space

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There are, of course, scores of other important trades employing some thousands of persons each, but these main ones give a good idea of the diversity of skilled labour available. That so many industries are so successful in the district speaks highly for the adaptability of the labour. It is one reason why entirely new types of manufacturing work can be established quickly in the area. Workers have such wide experience of many kinds of factory and technical work that they can readily learn new jobs.

Most of the manufacturers with whom I spoke were emphatic about the value of local labour. All cited labour as a major reason why they chose a Birmingham location.

Another interesting point brought out was that Birmingham attracts skilled men and women from other parts of the country. Thus, the chances of getting a trained staff are increased, despite the fact that the total of unemployed among insured workpeople is but little over three per cent.

Nearness to sources of raw-material supplies is always an important factor. At Birmingham coal and iron are right at hand, as the South Staffordshire mines adjoin the city. Within the city's boundaries are rolling mills, metal refineries and a host of other basic industries which supply other manufacturers with raw and semi-raw materials. Being on the spot, cost of transport and time-waste are cut to a minimum.

The cost, too, of bringing in raw materials from overseas is lessened by the nearness of the city to many of the big ports. I have mentioned one instance of saving in this respect as compared with manufacturing at a port. The big point is that "raws" can usually be transported in bulk at special through rates from port to factory, whereas the finished goods normally are dispatched in small lots. Any extra cost of bringing in raw materials is more than offset by the saving in the distribution costs for finished products.

Although the centre of Birmingham is fully developed, there are wide stretches of country around the outskirts where new factory estates are being built. Here sectional factories, small individual works or giant buildings are available at rates comparable to those obtained in any other industrial centre. The £50 a year rent type of factory that has special appeal to the small manufacturer can be obtained, but charges, of course, vary according to the size of building, services available and the location.

While in the district I visited several factories which stand in open ground. There are acres of land available for future development. At Darlaston, for example, the big factories of Rubery, Owen & Co., Ltd., cover many acres, but the firm has ample space for new buildings despite is rapid expansion in recent years.

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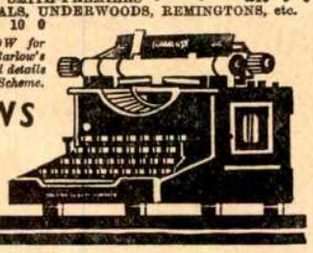

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ALL the factors that attract industrialists to the Birmingham area help to make it one of the wealthiest markets in Britain. And this fact, in turn, becomes a reason why manufacturers of consumer products find it worth while to locate in the district.

A few key facts and figures can usually give an idea of the value of a market. Take the population figure. Birmingham accounts for 1,043,000 people. Within a radius of 20 miles there are over 2,000,000 persons. Better still is the unemployment figure. Of the city's

With £24,000,000 at the Municipal Bank standing to the credit of 439,000 Birmingham citizens, there's a doorstep market of high buying power. Population: 1,043,000

1,043,000 the number of unemployed totals only 1.4 per cent. Look at it another way. Here is a comparative table of public assistance. It shows the figure per 10,000 per head of population receiving poor relief in Birmingham and other comparable cities:

Birmingham	176
Manchester	442
Liverpool	641
Average for the country	343

Those facts indicate the flourishing state of this Midlands centre. Further figures back this up. Building, for instance, is always a vital indicator. Since 1930 the city has spent £56,000,000 on buildings (all types) and in the past year has approved plans for buildings worth £8,000,000. Of this total over £2,000,000 is being spent on factory and workshop construction, which suggests that, as a factory centre, the area "has its charms".

Another important building figure is that of housing. Since the war 44,750 houses have been built by private enterprise and over 47,000 by the Corporation. The cost of the municipal housing schemes has passed the £24,000,000 mark. All these houses are wired for electricity or supplied with gas. In many cases both services are laid on. The annual rent roll paid to the local authorities is over £1,200,000. Rentals of municipal houses range from 5s. 10d. to 16s. 10d. a week. Over 194,000 people—about one-sixth of the city's population—are housed on the municipal housing estates.

Rents and facilities such as these leave a fair margin of the weekly pay packet of the 463,000 insured workers for spending in other directions. Over 13,000 persons, for example, have bought their own homes through the facilities offered by the Municipal Bank. For this purpose the bank has advanced nearly £5,000,000.

An interesting figure which shows the wealth of this market is that of open accounts at the Municipal Bank. There are 439,000 of these, to the credit of which stand £24,500,000. A tidy sum of reserve spending power to be held by the working-class citizens of one city.

The number of students attending evening classes is about 19,000 and gives an indication of the character of the Birmingham people. They are keen to learn, and, although shrewd and well provided with common sense, they are not unreceptive to new ideas. Indeed, the progress of the city is evidence of receptive minds, for modern Birmingham is largely built on new ideas in industry.

Sport and recreation take up a lot of time and interest of the population. Most of the big concerns in the area provide their staffs with recreation and sports grounds, but there are also ample provisions in this respect by the municipality. There are, for instance, 28 swimming pools, five golf courses, 180 football pitches, 115 cricket pitches, 415 tennis courts and 45 bowling greens under municipal control. The swimming baths are visited by over 2,000,000 persons a year. For other recreational purposes there are 34 public parks, coverage 1,381 acres, 93 recreation grounds, covering in total 2,418 acres, and 36 other open spaces occupying an area of 34 acres.

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SUPPLIES of semi-manufactured goods, factory plant and equipment on the spot has had a big part in attracting hundreds of manufacturers to the Birmingham area. The advantages are many and important. The vital factors of time and cost, for instance, are reduced to a minimum. Delays in getting through supplies or in carrying out replacement and repairs to factory machinery can be largely eliminated.

Most of the metal industries, electrical and general engineering trades come within the category of "industry for industries". More specifically, there are at hand manufacturers of machine tools, chemicals, bearings, chains, factory plant, rubber products and a host of other equipment and semi-manufactured materials needed in factories.

An instance of the available supplies is to be found with The Midland Fan Co., Ltd., a firm I visited. This company make various kinds of ventilating equipment which is used extensively in factories, offices and other business premises. If, for example, you find you have a dust problem in your works here is a firm on hand to install a dust-extracting plant without delay. Work can be started within an hour of your decision that action must be taken. Should there be a breakdown in your ventilating system the experts are on the spot to put it right.

Take the case of Rubery, Owen & Co., Ltd., Darlaston. This big company produce a wide range of goods used in factory and office. They manufacture, for example, 480 different sizes of pulleys. They also produce all kinds of steel office equipment and furniture. They make components for aeroplane and motor-car engines, stacks pans and adjustable steel shelving for factories, warehouses and offices. They also produce structural steel.

The company are a good example of the value of having industrial suppliers on the spot. They can supply the nuts and bolts that are used in your everyday work, or the framework of the factory which you build. If there are any special processes in the working of metals which you cannot do in your own factory it is probable that the company can do the work for you. They have big resources in machines and equipment and have over 4,000 skilled workers available for your service.

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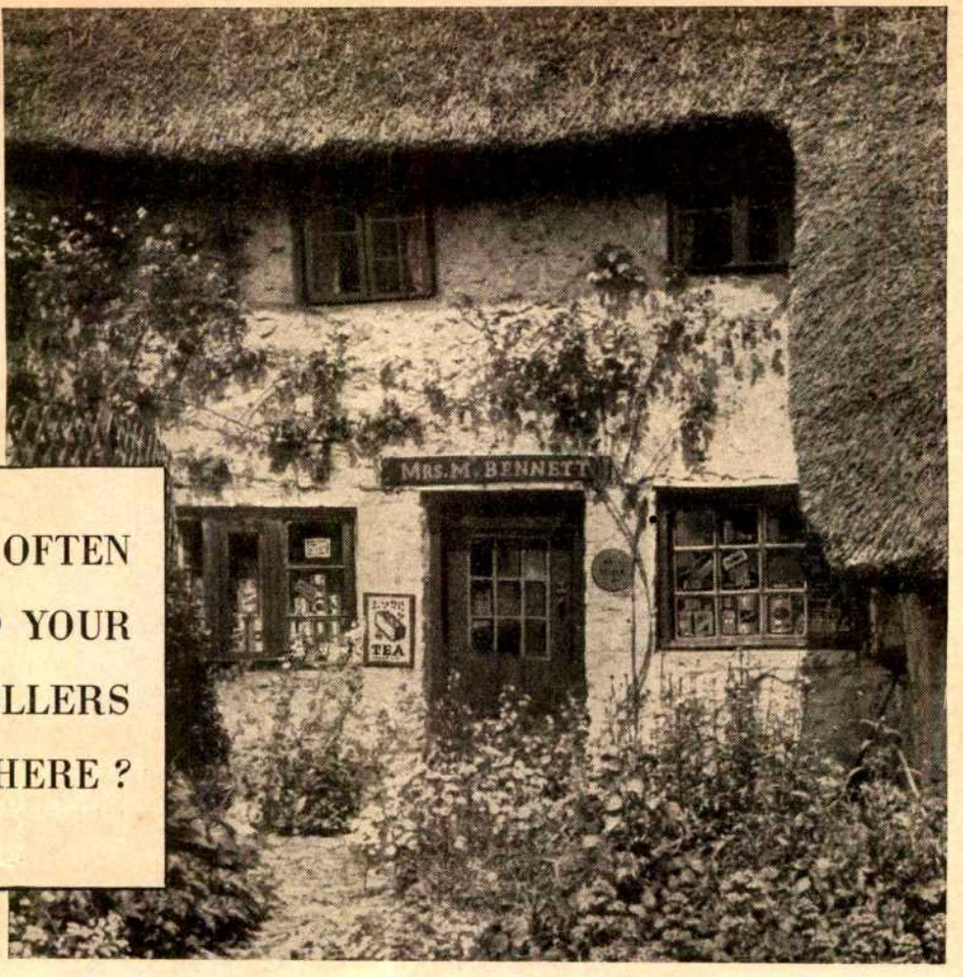

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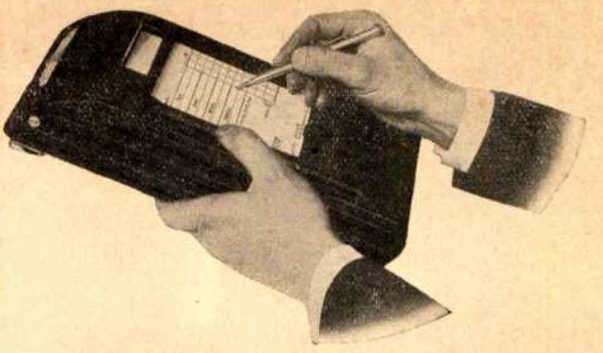

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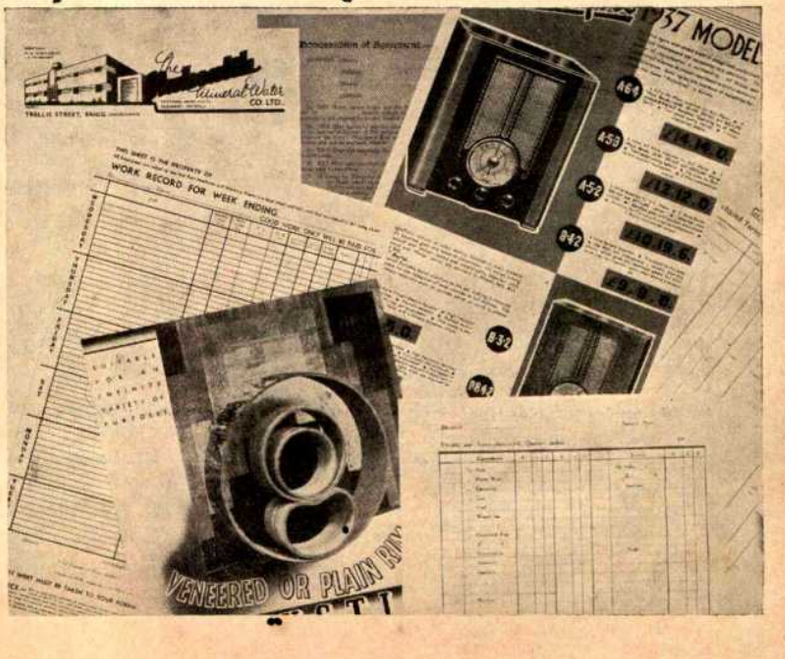

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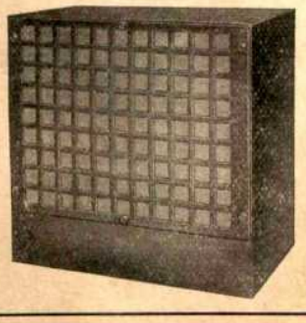

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When Sales Resistance Stiffens

PLUGGING PROFIT LEAKS

Will Help You Balance Up by Cutting Down Costs

From an Interview with

S. W. LEVERS,

Rawlplug Co., Ltd., London, S.W.7

WHEN trade rides along on the crest of a prosperity wave almost inevitably the internal costs of firms increase. Speaking of businesses generally, one may say that:

Orders are plentiful, expenses on the selling side are therefore perhaps not so critically examined.

Immediate money is not so urgently needed, accounts receivable may therefore be less closely followed up.

Buying is done on a more rapid and lavish scale, prices, discounts, and "extras" are not so exhaustively scrutinized.

Goods move fast and in bigger volume, inventories are not so rigidly checked.

Everybody on the whole staff feels the "freedom" of prosperity, normal economies are overlooked and little extravagances creep in at a thousand points throughout the organization.

After a period of this sort of happy-go-lucky condition all these increased costs tend to become established practice. Their growths, though they may have been fairly rapid on the whole, took place at such widely diverse points that the incidence of each one was barely perceptible. That is the trouble.

A sales director, for example, would have his attention called to a grossly obvious increase in, say, one or two men's cost-per-order. But when the increase is very slight and evenly spread over the whole sales force, he is rather apt to lose sight of it in the glowing satisfaction of increased business.

Then, in the face of tightening conditions such as exist at the present moment, he is likely to turn his attention more to campaigning against the increased sales resistance than to look back along his increased costs. The sales director is essentially a man who casts his eyes forward, not backward.

And so it tends to be with the whole organization. Executives are rather too prone to accept as a now permanent condition the cost situation that has imperceptibly been built up.

In our own case we have adopted a policy of preventing the expansion of these costs rather than a campaign for curing them.

Two years ago we foresaw what conditions were likely to develop and laid our plans so that we did not feel the strain of maintaining sales and profits. How successful we have been shows clearly in our 1937 results. Sales were 10.8 per cent higher than for 1936, and we increased our dividend from 35 to 40 per cent.

This sort of progress is not maintained by "cure" methods. It calls for long-range planning in all phases of business, particularly in those vital sections, the factory and the purchasing department.

When Does Change of Policy Become Necessary?

It is here that we have built our present, and made possible our future, success. And linked with our policy in these two fields is that concerning advertising which, as I will later explain, has played an important part in keeping the profit trend upwards.

Before such policies can be made, of course, there must be in force management which does more than exercise day-to-day control. How, one might ask, do executives come to know that a change of policy is necessary? Information on which action is based is not drawn from the air.

The answer is simple: we use information which is available to all business men. Facts, figures, and news about the state of the raw materials markets, the trend of prices, Board of Trade returns, bank statistics, volume of retail sales, motor-car registrations, rail traffics, and so on. All these tell us what we need to know.

Our executives keep informed on the general economic condition of the country as well as that of the industries and trades closely allied to us. In other words, management must have the wide view before intelligent policies and plans can be formed.

Any firm, of course, can employ such a policy, the facts and information are open to all, but it is unfortunately a fact that in many concerns their significance is not fully appreciated. Executives do not make sufficient use of this data for forming their own future plans.

Two years ago, then, we saw that business was on its way to a boom, that sales would climb almost automatically, that raw material prices, production and selling costs would certainly rise as business activity increased.

There is no magic in seeing that, with these conditions ruling, the increase in sales would not keep up the profit ratio. The direct answer to that problem is a rise in retail prices of the product. But with branded, fixed-price goods, the public do not respond to paying a penny more than the price which is firmly established by advertising. With products not branded and priced, some price fluctuation can be made with success.

How We Avoided Heavy Cost Increases

Acting on this knowledge, we adopted three key policies: (1) long-range purchasing; (2) reorganization of the factory and production works; (3) consistent advertising.

In all three instances, it will be noticed, we looked to ourselves for the answer to our problem and not to our customers—dealers and public. We considered it would be bad policy to attempt to pass along to them any of the extra

cost so far as our branded goods were concerned. With the unbranded kinds we did allow ourselves a margin of price increase.

One of the big causes of costs-embarrassment to manufacturers in recent months has been the swift rises in prices of raw materials: not only have costs risen in many instances by 30 and 40 per cent or more, but deliveries have been very erratic and often long delayed. Thus production and selling costs have tended to get out of hand because manufacturers' schedules have been thrown seriously out of gear.

Our policy has to a very great extent kept us out of this trouble.

At the time of our adjustment, prices for materials were low. We were able to contract for regular supplies for one, two, and more years ahead. Producers were only too pleased to have our orders and to give us very favourable forward buying terms and guaranteed schedules of deliveries.

These guaranteed terms of delivery were in themselves a tremendous advantage, as they enabled our production planning to be made on a much sounder basis. But the cost advantages of forward buying terms were even greater. How important they were can be judged by looking up the costs for such things as jute, iron, steel, etc., two years ago and comparing them with the prices ruling to-day.

Naturally, in this heavy forward buying we had to be very sure of our facts and our interpretation of them. The wide view of the economic conditions had to be lined up with the narrower views of the specific industries concerned. The principle of heavy forward buying could not be put into force haphazard. In some instances the facts were such that we contracted only for six months to a year ahead; in some cases a shorter time, in others a longer. It was a matter of accurately adapting the facilities to one's specific needs.

This estimate of exact requirements was, naturally, a vitally important factor. Here, of course, all our figures of past consumption formed a reliable guide. Linked up with these were our budgeted forecasts of sales increases.

We Made Our Own Internal Adjustments

Throughout the past year we have been very fortunate with our deliveries. They have come through steadily as contracted and have dovetailed into our factory organization.

In the factory we adopted a two-part plan: (1) reorganization of plant and layout; (2) readjustment of work and workers.

These factors have been the means of saving much time and labour, therefore cash. Much of the work in putting the plans into effect has, of course, been purely technical.

Our technical men, therefore, got busy and devised the most efficient layout of plant for our purpose. Machines, for example, were arranged so that work progressed along the line so that the very highest efficiencies of flow production were secured. The feeding of raw materials to the machine lines was also organized along more direct routes.

Certain of the machines, of course, could be switched from one job to another; these were concentrated into convenient groups.

All work was time-studied and wages were put on a "payment by results" basis. Here the value of carrying out the reorganization by our own men was again emphasized. Often firms find hostility and resentment on part of the staff towards time-study systems, especially if they are put in by outsiders.

In our case the people who carried out this important research work were all well known to our staff. Consequently, through friendly explanation, the staff quickly got to understand and appreciate the principle behind the proposed improvements. They therefore gave their full co-operation, since they realized that the reorganization would be as much to their own benefit as to the firm's.

Actually, we find that we are now paying higher wages per person than we did under the old system.

Another adjustment made was that concerning staff. In our investigations we were able to find out those people who were not suited to their jobs. By moving them to other work for which they were more suited, everyone profited —the firm, the persons concerned, and the other workers.

The fact that we were able to carry out such big improvements in so many ways does indicate the necessity for management to be alive always to the possible improvements in methods and technique.

After all, we were a successful firm at the time the new policies were put into effect. It had seemed that our factory and other sections of the business were functioning efficiently. Yet the improvements have been such that we have increased our profits under many adverse circumstances. And certainly the very fact of constantly improving policies and methods prevents those insidious increases in costs that are so liable to occur, as I mentioned earlier in this article, if management leaves things too much alone.

It is noticeable that one adjustment leads to another. An example is the way we now deal with the demand for certain products.

Instead of manufacturing them as the orders come in, we now estimate our total sales for the year and switch the machines to produce that quantity in a period of uninterrupted operation.

The cost of keeping the products in store is much lower than that of periodically switching machines to cope with a current demand.

Besides taking this work out of "peak and valley" periods, we can now employ the machines at a time when the total demands on production are at their lowest. This policy not only keeps down production costs, but it makes the works manager's job much easier: he can follow a much smoother and less worrying routine than would otherwise be possible.

Behind the work I have described stands our advertising policy. I mention this activity because it has been a valuable ally in our progress. But advertising can be used in different ways. There are strong advocates for its use as a direct selling agency where every advertisement published is expected to bring in a definite amount of actual business. Then there are those who use it in a way that is not precisely defined, just, in fact, "as a necessary link in our sales promotion plan".

We Kept 'Peaks' Out of Advertising Policies

Finally, there is what is known as goodwill advertising. This involves a steady policy of propaganda with the object of constantly keeping the advertised products in front of the public's notice rather than of directly pulling any specific amount of business.

Our advertising policy is in this last class. We are thus able to keep its volume steady and quite devoid of intensive campaigns designed for seasonal or other circumstances.

The slight increases in appropriation that we make from year to year are to keep pace with our steady expansion. We operate advertising in the same spirit that we run machines—to perform, economically, a certain amount of work. To stop and start a machine frequently, to run it day and night for a period, then to allow it to remain inactive for the following period is obviously bad management. We think the same is true of advertising. That is why we have set a policy of steady, consistent publicity in our plan to maintain sales and profits.

Policies such as I have mentioned call for a wide measure of control and co-operation. To have, for instance, the sales department ignorant of what the works department is doing, and both without knowledge of the purchasing department's activities, is to defeat the purpose of all this planning.

I do not mean that executives in each department should know the complete details of one another's jobs, but that there should be an intelligent co-ordina-

(*Continued on page* 46)

For

Your Guide to Markets *See Page* 54

Ideas for Sales Managers *See Page* 20

About This New Factory Act *See Page* 41

Trend of Trade for March *See Page* 48

"BUSINESS" Road Test *See Page* 24

The Month's NEWS in

Management Trends

By The Editors

Price Puzzle Pointer To-day is: 'Stay Put'

AT this moment when every possible effort should be devoted to keeping sales channels open, the factor of price policy is of prime importance to management.

The state of the market is so precariously poised just now that the least disturbance is likely to upset customers. To raise selling prices is almost certainly to introduce such a disturbance. So the golden advice—for the next month or two, at any rate—is: do not advance your selling prices unless absolutely driven to it. Take smaller profit margins as an infinitely wiser alternative.

A FEW months ago the pressure that was driving manufacturers to raise their selling prices was almost inexorable.

But this pressure to-day is much less. The prices of many raw materials, for example, have ceased their steady climbing. Quite a number have actually dropped, and still show a downward tendency.

In mapping out forward selling price policies, therefore, managements must consider that their costs are just as likely to fall as to go up.

THE case has come to our notice of one manufacturer who made a bad mistake in slightly advancing the price of one of his lines.

The product consisted of two main components—one paper, the other metal.

This line had been selling well to the public at 3s. 6d. The manufacturer, however, faced with the increase in paper prices, raised his retail price to 4s.

Soon after the rise had been put into operation it was seen that the price of metal used for the other component would drop. This drop was sufficient to offset completely the rise in paper prices.

If this manufacturer had made a more careful study of metal market tendencies, he would have foreseen this change and would have avoided raising his selling price.

As it was, however, the advance to 4s. hit him a bad blow. Customers would not have it. In less than no time his sales returns were dropping like a plummet.

●

Fixed Price Fetish Becomes Boomerang

MANUFACTURERS in practically every trade where the products go to the public are feeling this strong resistance to price increases. It is not only that the average man or woman objects to the mere fact of paying out more money. There is another side to it.

The head of a very well-known concern put it to us in this way:

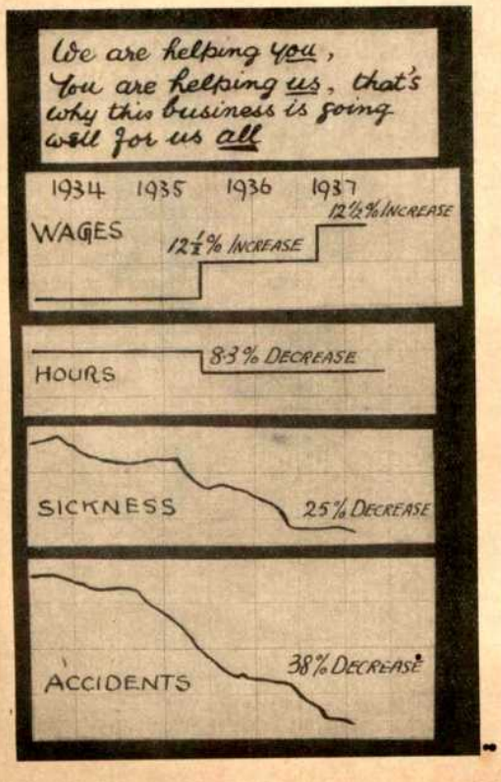
"The public," he said, "get used to associating a certain article with a certain price. We will say that price is five shillings. Now that article may, in fact, be very cheap at five shillings and might still be most excellent value at five-and-sixpence. But if the manufacturer raises his selling price to that figure, it is nine chances to one that his sales curve will at once show a sickening dip.

"NOW this," he continued, "is not because the purchaser cannot afford the extra sixpence, or that the product is not well worth it. But the trouble is five shillings is the sum fixedly associated in the customer's mind as the price of that article, and at the demand for five-and-sixpence this ingrained association is thrown right out of gear.

"On reasoning it out with himself, the customer will probably come round to accepting the higher price as equable. But the vast bulk of people are actuated by mere reflexes and not by logical reasoning. The result is they say: 'Poof! Five-and-sixpence? I am not paying it.' And they do not.

"Multiply this reaction by a million and add to it the several times that each of such precipitate people mention the 'outrageous' price increase to their friends, and it is little wonder that those distressing dips so suddenly show in the sales curves."

●



Workers Like to Know These Inside Facts and Figures

ON the notice board of this firm the management posts such statistics as these. They serve to emphasize the fact that the objectives of management and workpeople are parallel and not divergent.

In this firm works councils have done much to harmonize and blend the management-employee viewpoint.

Through co-operating with the councils the management introduced holidays with pay, improved lighting and safety conditions, etc., long before these things came in for legal consideration.

Clean Air: Industry's Best Doctor

NO less than three large firms mentioned to us last month that air conditioning had definitely reduced staff absenteeism through sickness. Colds and influenza were specifically mentioned as being reduced.

In view of the fact that these two ills probably account for more lost working hours than do any other types of disability, air conditioning would seem worth while on this score alone.

But in one of the three firms that mentioned this subject to us we found that in their new building the general office and all executive offices were sealed from outside noises. There were windows in plenty, admitting ample light, but they were of plate-glass and not made to open.

The quietude was very noticeable, but the air was warm, fresh, and dustless.

We spoke to several of the office workers and asked them how they liked being insulated from street noises and noises from part of the factory. The gist of their replies was: "We do not know how we stuck our old building."

No management can afford to ignore the power of thus being able to cut down

sickness and absenteeism and to reduce the bugbear of noise. Air conditioning, whether it is being considered in connection with gas-proofing part of the premises or not, should be looked into.

●

This Way Lies Constructive Management

ON page 11 Mr. Graham Cunningham puts much-needed emphasis on one of the most important aspects of modern management.

There is no question about there being better results in the way of output and personal relationships when management and staff realize the unity of their aims and set about reaching them in an intelligent and harmonious way.

Whether or not a profit-sharing scheme is in operation, the management *can* get closer to its employees and work more constructively *with* them.

The most effective way of doing this is to institute works committees. By this means members of the management and of the rank and file are automatically brought together. But the point to be watched is: never let the spirit of these committees deteriorate. If it does, then the whole object and purpose will become wrecked.

We have seen cases where at the first meetings the managing director and perhaps other fully responsible executives enthusiastically represent the management side. Then as time goes on the chief himself becomes more and more frequently absent. Then the next senior drops out, and then probably someone else, until finally the management is not truly represented at all.

Under such conditions the status of points discussed deteriorates; the rank and file see that there is no authoritative backing to the plan, they become disappointed, then incensed, and the whole idea falls into disrepute.

IN all but the largest organizations it is very desirable that the managing director—or whoever is the "boss" himself—should personally be enthusiastic about such a scheme and that he should personally attend the various meetings.

There is a certain amount of snobbishness in all of us. The rank and file do appreciate being able to meet the boss on level terms. And the boss, if he is wise, will understand that through works committees he has the very best of opportunities for (*a*) fostering the intelligent co-operation of his workpeople, and (*b*) finding the snags in his organization and of promptly applying the remedies.

AN example of (*b*) came recently to our notice. In the canning department of a certain large factory there was a heavy percentage of rejects due (apparently) to the faulty putting on of tin-lids.

The works manager visited his complaints on the forewoman of the section concerned, and she in turn censured the operatives under her.

But the fault persisted. The forewoman became particularly severe and would not take the girls' retort that the lids themselves were faulty. They certainly seemed perfect, even on close examination.

The girls, however, resented the forewoman's attitude, and the whole department was becoming very unsettled.

Fortunately, a works committee meeting was about to sit for its monthly session. The matter was raised: forewoman and two of the girls were specially invited to attend.

The managing director was present and, after hearing the evidence, he sent for the man responsible for buying the cans. It transpired that the *lids* were coming from two different suppliers and that those from one of the suppliers, when accurately gauged, were found to be too big.

With the fault thus properly established, it was easy to find the remedy and to make everybody happy again.

WITHOUT such a round-table talk such a fault might have gone on much longer, and with goodness knows what further upset.

But even at a committee meeting it is doubtful if such prompt diagnosis and remedial action could have been taken by anybody but the boss himself or at least by a senior director.

Workpeople know that the boss himself has power for action. That is why they like to consult him.

And, after all, the boss *should* be a man of action. To have at its head a man with the knowledge and the power to *act* has always been the great advantage the single business has possessed over the combine with its less agile form of committee management.

●

Modern 'Knife-Grinders' Are Needed

A. R. KNOWLES, live Secretary of Sheffield Chamber of Commerce, is vitally concerned with the cutlery trade. Speaking of the knives used daily at meal tables in hundreds of thousands of hotels, restaurants and homes throughout the kingdom, he said: "Their edges are like cricket bats, due to the mistaken belief, still prevalent, that stainless steel cannot be sharpened.

"Stainless steel knives *can* be sharpened; they will take on an excellent edge. Hotels," added Mr. Knowles, "are the worst offenders against knife sharpening. Why doesn't someone start up a proper knife-sharpening service for hotels?"

We have often wondered why the thousands of retail cutlers—and even hardwaremen—do not offer, and advertise a properly organized after-sale service for knives.

Buyers of radio, cars, vacuum-cleaners, washing machines, watches and clocks, fountain pens, even suits, can all get skilled after-sale service from the retailers concerned. Such service is advertised and properly organized. Yet knives want more frequent and regular tuning-up than any of these things. The cutlers are losing a lot of extra business and goodwill connection by not organizing, in conjunction with the suppliers, or otherwise, this important matter of proper and regular sharpening.

●

Magic Lanterns Booming Once Again

THE "magic" lantern business is not dead. On the contrary, for the last five years a steady revival has been operating, but the old-fashioned name has disappeared. Projection lanterns is the modern name.

Projection lanterns of course are of no use without slides, and the slide finishers say they are touching a new record peak this season.

According to *The Photographic Dealer* it seems that the cinema has been largely responsible for this comeback of the lantern. Screen pictures are big, life-like, brilliant. So thousands of snapshotters are having their "prints" made into slides instead of paper enlargements.

The new "magic" lantern boom does not cut into the younger "home movies" business, a slide finisher told us. Amateur cine-fans are, generally speaking, quite distinct from the "still" photographer. So the revived lantern and the home cine-film businesses will develop side by side.

After their disastrous fire officials of H.M.V. Ltd. expressed great satisfaction at finding all papers in these files (supplied by Art Metal Construction Co.) perfectly readable. Only damage the papers received was done by water, due to the files being of the simple non-locking type

Management Needs the Knack of *Closer Touch* With Its Employees

Management and Staff must think along *parallel* lines, not *divergent* ones, if a business is to give of its best. But this unity of thought can be secured only by 'the boss' and his workpeople getting to know one another better. HERE IS ONE WAY OF DOING IT

By GRAHAM CUNNINGHAM
Managing Director, Triplex Safety Glass Co., Ltd.

DURING the past five years employers have come to recognize that the major factors of business management undoubtedly centre around the various aspects of personnel control.

Lord Perry, of the Ford Motor Co., Ltd., recently emphasized this fact in the pointed phrase: "*Men* are more important than machines."

In an age when the development of mechanization has brought out so many critics who declare that the machine is ousting the man, this statement is more than ever significant.

Real understanding of the personnel management factor in business, however, is still not developed to anything like the extent it should be—to which, in fact, it *must* be if business is to be assured of continued prosperity.

A Business Head's First Concern is With MEN

Let me quote a statement by the head of another famous firm. It is a remark with which I am wholly in accord, and which points directly to the detail implied by Lord Perry's broader statement. The remark was as follows:

> "It can even be said that the main contribution which a chief executive can make is to spend his time getting the right employees, and developing the right relationship between them and their jobs and between them and their fellow workers of *all* grades."

Speaking in a general sense, I believe that employers are not sufficiently close to their employees. This, I think, is because it is not yet realized that management and rank and file *must* think along parallel lines.

There is still too much persistence in the outworn idea that the aims of employer and employee are antagonistic; that the two elements are in totally different classes; that the natural law is for each to exploit the other.

The persistence of this idea has been —and still is—the cause of most of our industrial troubles. But the blame for its persistence does not lie so much with employees as with employers.

Management has always had the facilities and the power to convert this mutually hostile attitude into an harmonious understanding. Until lately, however, it has made little real effort to do so.

To-day, as I say, management is rapidly getting to understand this power which is in its hands, and is turning it to good account. The result is the rapidly increasing number of well-run, profitable businesses.

Control by Boardroom Formulæ Out of Date

Management's most important job, therefore, as I see it, is to give up trying to manage wholly by boardroom formulæ, and to do it more by personally seeking the intelligent co-operation of the men and women on the staff.

To do this, management has got to get into touch with the workpeople, and has got to *keep* in touch with them.

It has got to educate them into understanding *why* employers' and employees' aims interlock and are similar. It has got to show them *how* those aims can simultaneously be reached by happy co-operation.

Different businesses must go about this task in different ways. The whole management must participate in the plan, but the best man of all to do the important campaigning among the rank and file is the boss himself; yes, personally.

Since I have been associated with the organization of which I am now the head, it has been one of my main objectives to educate our employees along these lines. It has been my aim to get them to understand:

(1) Their true and essential position in the scheme of industry generally.
(2) The relationship between, and the responsibilities to, themselves, their employers, and the company's shareholders.
(3) Their attitudes towards their jobs.

This education, I am happy to say, has been very successful. In our organization (which consists of a group of three manufacturing concerns) the following results have been secured:

(1) Political and personal friction has, in the main, disappeared. Any minor dispute that may on a rare occasion arise is quickly and amicably settled "within the family".
(2) Over the past four years, when manufacturers in almost every trade have had to raise selling prices, we have actually *reduced* ours every year except one, when we made no alteration at all.
(3) The standard of earnings of all employees has consistently increased.

These achievements are, to my mind, far greater as indications of successful business than any record-breaking list of mere cash profits could possibly be. And in making this statement I have the full endorsement of our shareholders.

As facts they are, if I may say so, guarantees of our successful *future*—in these days of severe competition a much more important thing for management to think about than just the money profits of the moment. But how can the management, or the boss himself, in a big organization get close up to his employees and maintain this educative contact all the time?

Heads of Big Businesses Can Do It

Admittedly, this is not so easy as it is in the small single business. For a large firm with head office in London and factories in various parts of the country, the idea certainly presents some problems.

Following my conviction that the boss should "show himself" more, I make frequent personal visits to all our factories. But I certainly do not follow the routine of dropping in just to meet the

local management, hurrying away again after a conference in the office.

This is the very way to build up the management, in the eyes of the workpeople, as a sort of flying squad inquiry agent whose advent is to be watched with apprehension and suspicion. It is the sure and certain way to foster that unhealthy "labour versus capital" idea instead of destroying it.

No, during my visits I make a definite point of going round the offices and works, of having a chat with people here and there. I cannot hope to remember everybody by name, but we have a low labour turnover and I can therefore remember a great many and never fail to address a man by his name if I know it.

I like to create the feeling of sincere confidence, and I am not a little proud of the friendly and familiar greetings passed to me as I make my rounds. One of the things I should dislike to see most of all would be a man suddenly bend over his work with spectacular vigour on catching sight of my approach. I should hate to think that "the boss" was regarded as this kind of industrial policeman.

Quite frequently I give talks to the workpeople. Not only on matters concerning their immediate jobs, but on the wider aspects of life: politics, the economic and industrial situation, recreation, and so forth.

If personal contact with employees, or at least the equivalent of it, is to be maintained, periodical visits and talks of this kind, however, are not sufficient.

Using Personal Messages to Supplement Personal Talks

In our own organization, therefore, I supplement these by means of personal messages sent out enclosed in the wages and salary envelopes.

Here again the messages are not confined to routine business matters. Certainly a tremendous amount of good can be done in this way by distributing what might be termed "pep" talk. Everybody likes occasionally to read something that inspires him in his actual work, but it is a thing that can so easily be overdone. And overdone pep talk incurs ridicule; it does more harm than good.

I therefore try to make any messages educative in the broader sense. The intelligent worker, I have proved by experience, definitely likes to know something about world affairs, about the economic meaning of wages, profits, employment, and so on.

I have ample proof that my supplementary plan of indirect contact through the pay-envelope messages is appreciated. Every week there come to my desk letters taking up various points I have mentioned from time to time.

Sometimes these letters deal only with personal matters, something to do with a man's job. I am glad to receive letters on any subject. A man has to have confidence in his boss to write to him. And when an employee has confidence in the integrity and justice of his boss, then you have what I consider is the right relationship between management and staff.

Every letter that comes to me receives my personal acknowledgment. When the subject written about concerns some aspect of a man's work, I never act arbitrarily or without the co-operation of the man's immediate superiors: charge-hand, foreman, works manager, or whoever it might be.

The men know this, but they also know that any action subsequently taken by a foreman or other superior will thus be with the full knowledge of the boss.

They Prefer Putting Problems to the Boss

They consider that a complaint or a request or a suggestion put direct to, say, a foreman might invoke only a pointed rejoinder dictated by self-interest, whereas if the boss knows about it no such austerity can be practised.

Let me say at once that, so far as I know, no foreman or works executive of ours would attempt to exercise tyranny; that state of mind, as I have already pointed out, is one of the things we have pretty well overcome. But, as every employer knows, in any big body of employees it is impossible to get perfection. Human nature being what it is, therefore, our men like best to put their troubles before the boss.

I have been asked why I distribute my "news sheets" via the pay-packets instead of through a properly organized house magazine.

My reply is that the very regularity of the house organ makes it ineffective for my purpose. Once started, a house magazine *must* appear on its appointed publishing dates, irrespective of whether the importance of news warrants it.

Readers soon lose their initial interest in a regular publication. My personal messages, however, are spasmodic in their appearance; there is always the element of surprise in their advent. Moreover, they invariably have a point; I never dictate matter merely for the sake of saying something.

The result is a quarto sheet every now and again that contains just two or three items of specific topical interest. Written by the head of the business, it captures attention. A regular magazine covering a far wider range of subjects and produced by less responsible people would not secure this interest. It would be far more expensive, too.

Profit-Sharing Gives Employees New Viewpoints

Now, going back to my basic plan of employee relationship, I want to say that the factor which has helped more than anything else in cementing the management and employee lines of thought into one direction has been our profit-sharing scheme.

Personally, I consider that the whole of Britain's industrial and economic situation could be vastly improved by the allocation of business profits on a different basis from that generally practised to-day.

A more equable division as between management, shareholders, and employees would, as I have proved in our own case, keep production costs (and therefore selling prices) down and would raise *real* wages as against the cost of living. A vastly more prosperous and progressive-minded community would, as a result, soon put up an unassailable front to the world.

But this takes me into a sphere of business strategy that is a little beyond the scope of this short article.

The part played by our profit-sharing plan in assisting the management's and employees' aims to become one has been very important.

To explain how, it is not necessary to go into actual financial details. What proportion of profits go to management, shareholders, and staff does not matter. The important point is that the employees do share the profits they help to create. Because they do this, therefore, they have got to understand the responsibilities and liabilities as well as the benefits that are involved.

Employees who share profits must know the full meaning of the term "profits". They must understand the economic and the working conditions that are necessary so that profits can be made. They must understand something of the equable division of profits and of the investment of surplus profits.

This Secures 75% of Employees' Interest

Many of my personal talks to our employees have been in the nature of explanations of these things. In the ordinary way, to employees having no personal connection whatever with the finances of the company they work for, such talks, of course, would be merely boring, if not actually offensive.

But by giving employees a financial interest in the profits of their work, you go seventy-five per cent along the way towards making them see eye to eye with the management: that vitally important point I emphasized just now.

The remaining twenty-five per cent is easily accomplished by management's continuous contact in the form of talks and meetings with the staff to keep the scheme progressive.

In this way management will achieve what I mentioned earlier as getting *closer* to their employees.

As a matter of fact, with the profit-sharing scheme which we have in force, this closer contact is automatically made easy. To run the scheme each section of the employees has its representative committee. The management also has its representatives, and both sides meet for discussions and recommendations . . . so these reasons, even if no others arise, are ample for frequent contacts and co-operation.

I think I should answer here one objection often put up by critics of profit-sharing.

A few years of prosperity for a firm, they say, tend to create in the employees' minds the idea that they can claim their cash distributions as a *right*,

(*Continued on page* 34)

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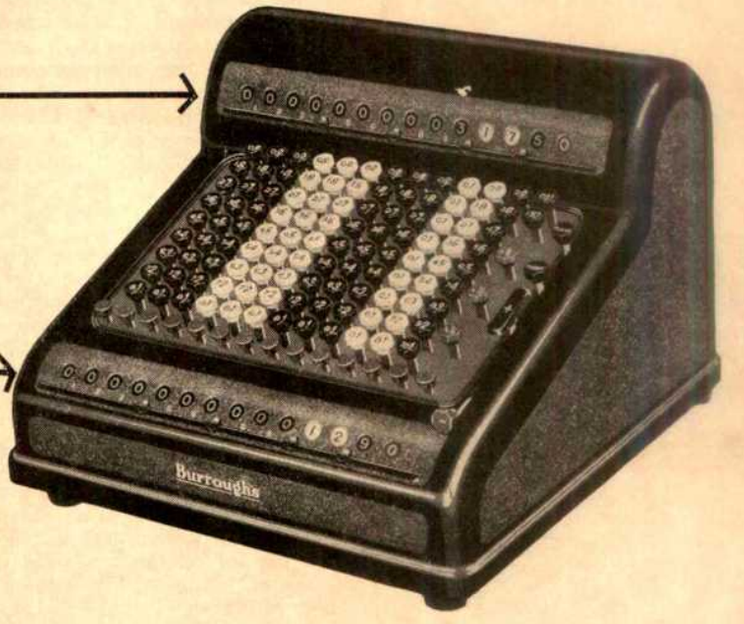

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Mr. Average-Man . . .

HOW Does He Spend?

By E. F. BRAYHAM

Economist and Business Consultant

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SINCE wages constitute 60 per cent of the average manufacturer's costs, the Ministry of Labour's cost of living index is a vitally important figure. For the level of prices is now tied up closely with the wages level. The interesting point, therefore, is the amount of wages that go back to manufacturers in over-the-counter sales.

How can we get at this figure? The best way is to analyse how much the average man spends on the various items that make up his weekly and yearly budget. That gives a key to how much is spent in any specific market and allows the manufacturer to estimate what should be his share of that market.

What Comes Back From Wages Paid Out?

We know from official records that over 87 per cent of our population earn £400 or less per annum, and that of this a high percentage comes within the £5 weekly limit. The average John Citizen is often likened to the man who earns £5 weekly. To trace his outgoings, let us compare his expenses in pre-War days against the year just closed.

Momentous changes since 1914 have left their impact upon world trade and social standards. In this country we are enjoying a standard of living which is far higher than that of any other European nation. Just how these changes have occurred, and the reasons why, can best be deduced from the two diagrams reproduced here.

Expenditure on food still remains the largest single item in the average family's budget, but *less is being spent*, and this may perhaps account to some extent for the C3 nation said to be growing up. On the other hand, however, we are getting far better value in foodstuffs. While such items as beef, bread, and potatoes are higher, the other more concentrated energy-producing products such as sugar and cocoa are lower in price than in pre-War days. Women also buy cosmetics and permanent waves, while patent medicines and eating in public places take a big share. As a rule when prices of commodities are upgrade food values ascend first, and invariably are the last to decline.

Gone are the days when 10 per cent of earnings was considered adequate for rent. Just before the War home ownership, and the kindred luxuries implied, began to absorb 20 per cent, but in recent years the trend has been more marked. To-day we spend 30s. out of every 100s. earned (in this class of wage-earner) on rent, which includes interest on capital, repayment, rates and taxes, repairs and insurance. The outgoings for furnishing are included in this group, while associated conveniences such as electrical appliances take an increasing share. Travelling expenses are also included in this group.

He is Better Dressed at Less Cost

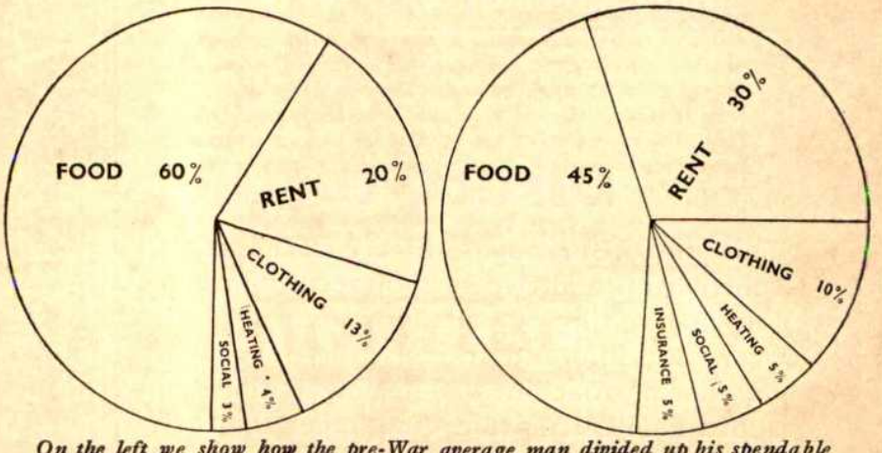
In clothing we are actually getting more for our money, as we are better, though not as expensively, clothed. In 1914 we demanded home-spun woollens and lasting cotton goods; to-day we are satisfied with the cheaper substitutes which the products of wood pulp have provided. Mass production and instalment selling are largely responsible for to-day's big but cheap market.

Thus we have a reason for the comparatively lower turnover in textiles than in other industries within the past two decades. Far more is being sold now, due to the fact that there is twice the number in active employment. In 1914, for instance, the electrical, motor, radio, and associated industries were either in their infancy or not seriously thought of.

Heating and lighting cost John Citizen 5 per cent of his wages. In pre-War days electricity was not used in the average home; to-day it is. Indeed, it is usual to find a working man's home in big cities equipped with a variety of electrical contrivances such as wireless-sets, heaters, cookers, laundry machines, sweepers, and toasters. Cooking is certainly done by gas if not by electricity. Thus, having enlarged our means of heating, lighting, and cooking, our allocation in this group has increased to 5 per cent.

Social services in 1914 were confined to public-houses and bus-rides which absorbed 3s. out of the 100s. earned. Now the cinemas, social clubs, new sports, and a larger variety of entertainment has stepped up costs in this group to 5s. Annual holidays are part of this expense. Gambling gains and losses are also included whether added or subtracted.

Then there is the question of insurance which did not seriously exist 24 years ago in the average earner's budget. Since the War, and for good reasons, we have had compulsory insurance against unemployment and health.



On the left we show how the pre-War average man divided up his spendable money. Compare it with the divisions on the right which show how the average man of 1938 now apportions his income

In addition, we are now inclined to take care of our ultimate needs more methodically. Thus industrial insurance for burial expenses has become normal for the average wage-earner. We spend 5s. on insurance in these days.

Saving, which was a virtue, is to-day impracticable, for the range of luxury products (cars, for example) has been greatly increased. It will be found that

(Continued on page 37)

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We Thought This Market *Would Be A Hard Nut*

Traditionally it is the most conservative in the world, but these merchandising policies sold it a brand new product . . . . *Says*

SIDNEY H. MUGFORD

Distributor for Gt. Britain Schick Dry Shaver

DECEMBER, 1937, completed our first year's operation in Britain. We sold 25,000 Schick Dry Shavers —an initial retail turnover of some £75,000 in one of the most traditionally conservative markets in the world.

We were well satisfied with that result. The figure went beyond the point we had set in our sales forecast. In fact, it exceeded some of the higher aims which we mentioned in our preliminary talks, but which we refused to consider seriously. We imagined they were quite out of reach of a single year's campaigning.

With our highest hopes manifested before us in the form of solid business, however, we were convinced that our marketing policies were basically right. They needed only extension in application to yield a *pro rata* increase in results.

For 1938, therefore, we have planned to double our sales: to sell 50,000 Schick Dry Shavers by December, 1938.

We do not cite this figure boastfully. Part of the 1937 achievement was made when our organization was in its most elementary stages. Throughout that year we carefully shaped and consolidated ourselves within. We developed such highly important factors as the detailed activity of our sales force and the precise manner in which our service department should work in order to give the fullest help to our new users and so render additional aid to the promotion of sales.

Our doubled budget for 1938 will therefore be backed by a considerably stronger and more experienced organization. This, together with the facts that the product itself still has a strong element of novelty and has also a high degree of merit, suggests, I think, that the quota we have set for the coming year is not unduly optimistic.

I will sketch briefly the position at the time we took over sales of the shavers in this country. At that time they had reached success in the U.S.A. and Canada. Over 1,500,000 had been sold. In Britain and Europe, however, only a few had been distributed via an agent through wholesalers to retail outlets. But the price was high, £4 19s. 6d., and no real attempt had been made to sell them to the public.

These Were Among Our First Difficulties

Many factors had to be considered, chief of which were: (*a*) the price was high, even for the class "A" market; (*b*) a good deal of educating the public had to be done to introduce the product; (*c*) people here were not so "electricity-minded" as in Canada and America; (*d*) there was no reason to suppose that sales could be rushed to big numbers economically. But despite these factors we were convinced that a big market could be developed.

By importing from the Schick factory, St. John's, Quebec, we were able to take advantage of the favourable tariff on Empire products. This made it possible to sell the shaver in Britain at £3 3s. 0d.

In October, 1936, I started a personal investigation of the market and retail outlets. The few dealers who were already stocking the shaver were visited, and we gathered from them any views and information they had to offer. New retailers were approached and the matter discussed with them.

This preliminary work was confined to the London area because it is the richest single market in Britain. It is compact and is the most receptive area for a new "luxury" type of article.

Why We Decided a Fixed Price Policy

Now this market survey helped us to form our policies and methods. We laid it down, for example, that retail sales should be made at an absolutely fixed price. All retailers becoming stockists have to give us their agreement to this injunction.

Such a rigid policy is not merely a means adopted to protect the ordinary trader, but rather to safeguard ourselves and users of our products.

With an electric shaver a certain amount of servicing may be necessary, as the average new user is quite unfamiliar with this type of product. It takes some time before a man can handle the shaver satisfactorily, as the technique is entirely different from that of ordinary shaving. We have, therefore, established a service department to assist the individual user.

We know our shaver is an efficient product, but we also realize that it is more important than ever at this introductory stage of our business to ensure that *every* new user becomes a hundred per cent satisfied with his purchase. It is not merely slogan-quoting to say that a satisfied user is our best advertisement, it is a very active truth.

Conversely, to allow a user to become disappointed through being unable to use the shaver properly would be to our great detriment, so we have necessarily to perfect our initial selling and our after-sales service.

Our rigid price maintenance policy is therefore designed to eliminate the cut-price stockist and those types of distributors to whom the price factor is the be-all and end-all of selling.

We also decided to avoid using wholesale houses, our reasons being: (*a*) retail dealers would have the maximum discount; (*b*) we could select the suitable type of dealers; (*c*) we could keep a bigger control over price maintenance, as every shaver is serial numbered and therefore traceable to the retailer.

One Standard Discount To Prevent Dealers Over-stocking

Only one discount, 33⅓ per cent, is allowed the trade, no matter what quantity of goods is taken. This discourages the ordering of big lots for the sake of additional discount. Small or large retailers therefore take only as much stock as they think they will sell. They do not have shavers lying on their shelves, an invitation to clear them out at price reductions. Such a policy also encourages the small dealer to sell our goods because he is competing on equal terms with big businesses.

Our policy in regard to dealer selection is also strict. We do not allow any type of retailer to sell Schicks. For this reason we have, in the main, avoided what might be called the "barber shops". Here is too much chance of cut-price sales, too much indifference to

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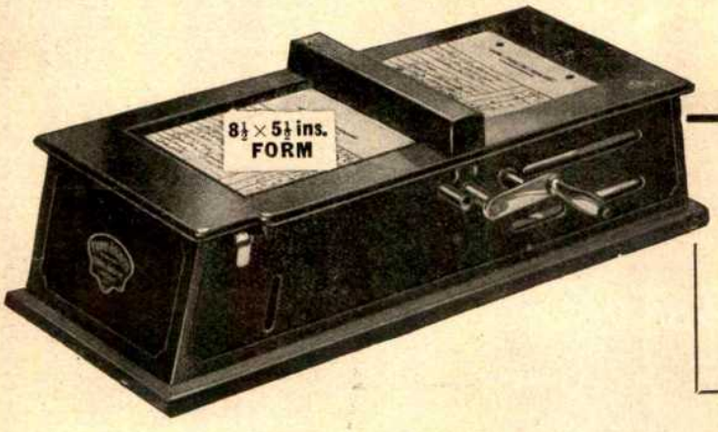

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service and the proper selling method. We have, therefore, ignored what might have been considered a logical field of retail outlets.

Our retail outlets have been chosen among chemists, department stores, and men's outfitters, of which we have some 4,000 on our books. Most chemists are fairly good-class shops. They have intelligent sales staffs and are logical outlets for an electric shaver. In the department stores our product is sold in the good-class cutlery departments.

Men's outfitting shops are the most surprising outlet. There are two reasons why they have been so successful: (1) they deal exclusively with that market to which we are selling; (2) many of them —especially the larger types—have a good-class barbering department run by responsible staffs.

Retailers Had First to Learn New Shaving Technique

Our first shavers arrived from the Canadian factory in November, 1936, and distribution was made in the London area. But our task was not simply to get the goods into the shops, set up showcards and start advertising. We had first to teach the retailer and his staff *how* the Schick shaves. It is the primary job of our travellers to tell the "how and why" of the product, then to demonstrate, and finally to get the retailer to use a shaver himself so that he and his salesmen will know from actual experience how to use it. We encourage the dealer to take a shaver for his personal use before stocking them to sell to the public. We back this argument with a booklet giving a detailed explanation of the shaver, what it does and why, how to use it, and a diagrammatic explanation of the technique.

The value of this initial instruction is shown every day. In chain stores, for example, where our staff has not instructed the salesmen we find many customers appeal direct to us for help. Where the retailer has been personally instructed and uses a shaver himself, customers quickly acquire the correct technique.

In May, 1937, we started advertising. Our appropriation was small, £2,500. We had to make it do a lot. We had to explain to people who had never heard of an electric shaver just what that shaver was and what it would do. But we had a good story to tell. For instance, here are some of the outstanding advantages: no soap, water or brush; no scraping, blades or lotion; no towels, no risk of cuts, no danger from electrical accidents, no reason why a man should not shave twice a day—or more if he likes.

Sensationalism Rigidly Kept Out of Advertising

A revolutionary product such as this, heralding the biggest change in shaving since the first beard was cut thousands of years ago, could easily be treated in a sensational manner. We could have launched a spectacular campaign against established methods of shaving, but we set our minds against such a policy. We were appealing to men in a good-class market. We considered that they would appreciate concrete facts. Sensationalism, we realized, would but rouse their contempt.

Advertising experts condemned this lay-out of our main showcard as fundamentally bad: too "spotty", and too bizarre in four bright colours. Results, however, proved it our best design. Figure using the razor and close-up of razor itself are points we included in all our publicity

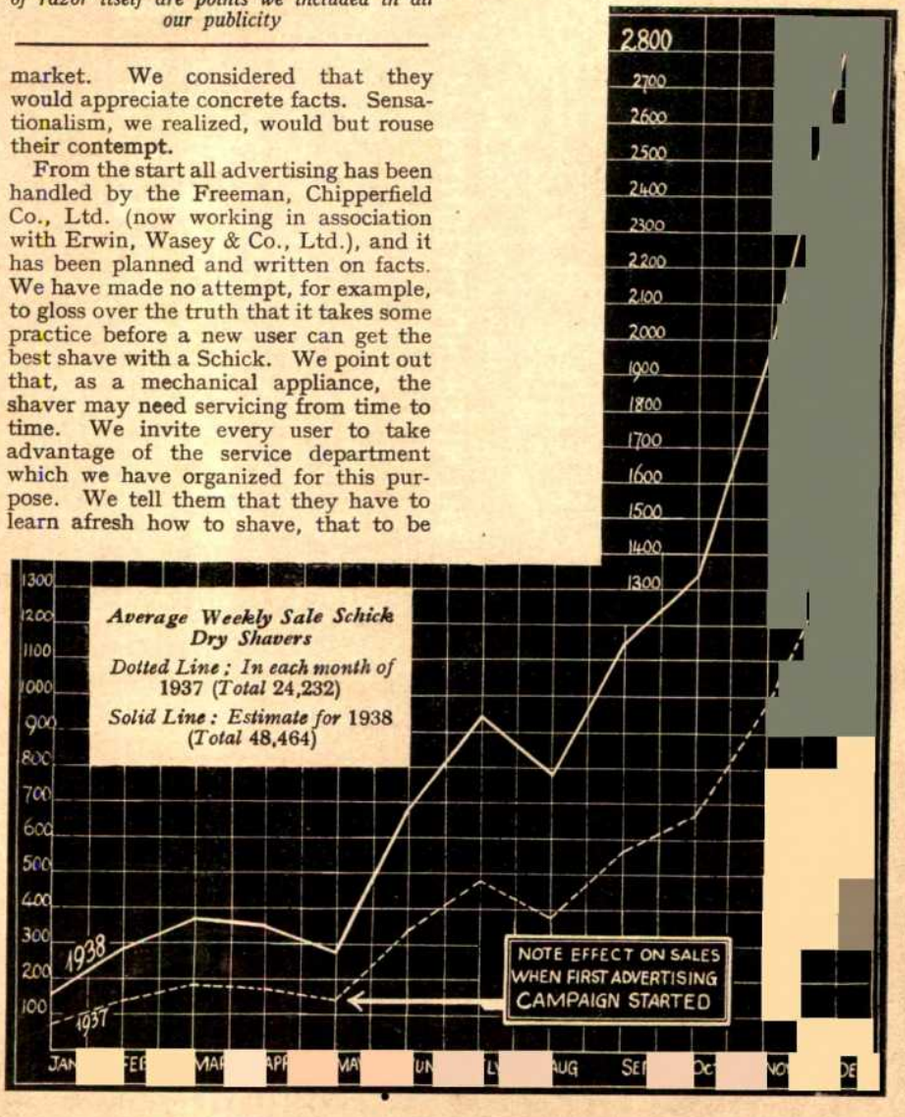
From the start all advertising has been handled by the Freeman, Chipperfield Co., Ltd. (now working in association with Erwin, Wasey & Co., Ltd.), and it has been planned and written on facts. We have made no attempt, for example, to gloss over the truth that it takes some practice before a new user can get the best shave with a Schick. We point out that, as a mechanical appliance, the shaver may need servicing from time to time. We invite every user to take advantage of the service department which we have organized for this purpose. We tell them that they have to learn afresh how to shave, that to be successful they must follow instructions and persevere with the shaver.

The "how and why" angle is included in all advertising. A head of a man, with a Schick held at correct shaving angle, is a frequent illustration. A drawing or photograph of a shaver is also used. Through these frequently repeated illustrations we find that men, picking up a Schick for the first time in a dealer's shop, instinctively hold it at something like the right angle. In other words, the "how" advertising takes the prospect a valuable distance along the road towards correct use. He simply needs final coaching in detail by the retailer.

We have, too, inserted a line in each advertisement inviting people to write or call at a local shop for a brochure which gives detailed information about the product.

Publications selected for advertising up till the present time are: *Evening Standard* and *Evening News* (London), *Daily Telegraph, Chambers' Journal, Punch, Wide World Magazine, Humorist, Men Only,* and *London Opinion.* In the newspapers the spaces taken have been 8-inch double columns; in the other publications sizes have varied from half to full pages.

(*Continued on page* 38)



Ideal Transport

for the Salesman

Especially when it costs less than third-class travel by any other medium.

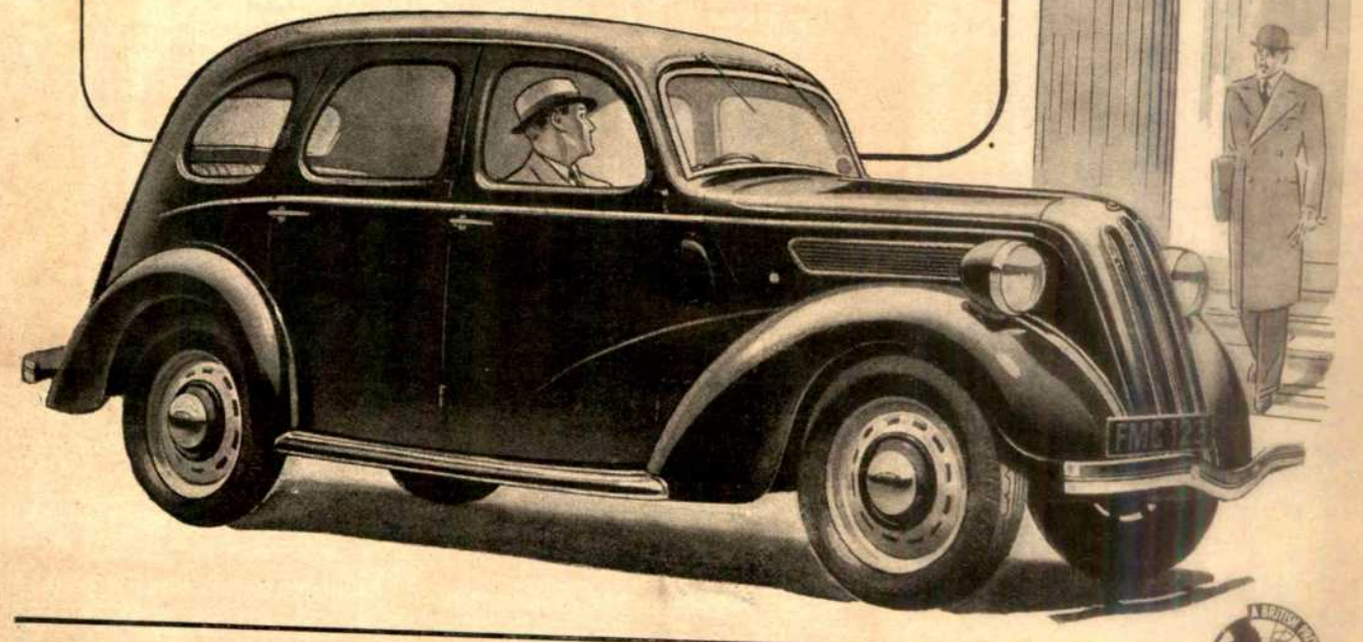
He votes solidly for the FORD "TEN" (develops over 30 B.H.P., £7.10s. Tax), because experience has taught him that no other car performs nearly as well, looks nearly as good, or costs—first and last—anything like so little money, as a Ford "Ten."

FORD 'TEN' SALOON £150

Double-Entrance Saloon, as illustrated, or Touring Car, £162. 10s.

ALL PRICES AT WORKS

Catalogues on Application, or from Ford Dealers, Throughout Britain. Every Ford Dealer is Delighted to Demonstrate any Ford Product, Without Obligation.



FORD MOTOR COMPANY LIMITED · DAGENHAM · ESSEX · LONDON SHOWROOMS: 88 REGENT STREET · W1

IDEAS For Busy Sales Managers

Steals a March on Big Competitors

A SMALL importer of sugar, finding business extremely difficult on account of pressure from the bigger houses holding a virtual monopoly, has created a sound and profitable connection by branding a particular type of sugar and attaching to it a specialized sales appeal.

Taking a pure, brown sugar, this importer branded it and stressed the particular dietetic values which it possesses. Instead of marketing his new brand through the usual retail channels, and thereby coming in competition with the big houses, this importer made a special drive for the health food stores. He also directed special propaganda to clinics, hospitals, doctors, sports clubs, and so on.

This plan has been highly successful, and a nice business is being built up.

●

Film Backed by Samples Get Bigger Sales

AT the cinemas in a number of Canadian towns where a chocolate manufacturer's publicity film was being shown free samples of a new chocolate were offered to patrons as they left the cinemas. To announce this feature the final scene in the film showed uniformed attendants distributing these samples outside a cinema. Announcer's voice on the sound track commented: "And don't forget to collect the sample we shall be happy to give you as you leave this cinema."

Backing a film in this practical way is an unusual feature; but the Canadian manufacturer states that better sales results have been secured in this way than by film alone.

●

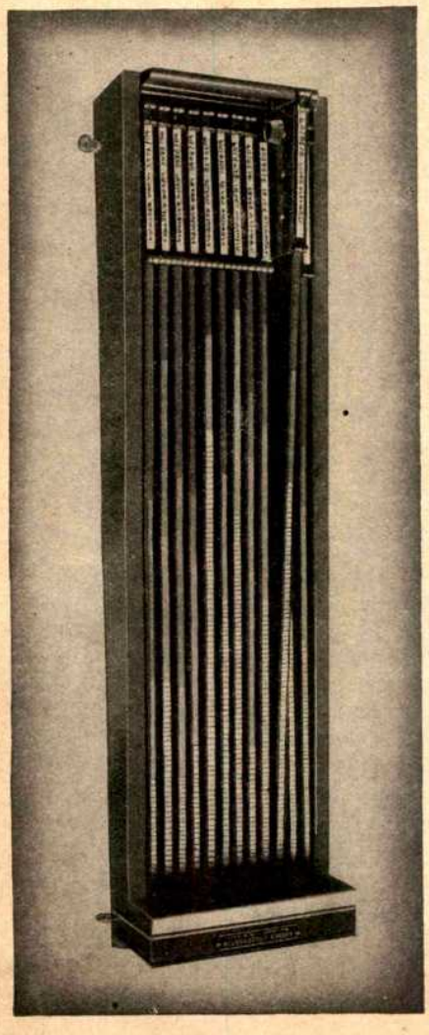
Proof of 'Washability' Sold more Rayon

BY giving a practical test of "washability", sales of a rayon fabric were increased by 40 per cent over a steady period of four months in a large department store.

An electric washing-machine was used, and a demonstrator, operating on half-yard pieces of the fabric, dried and ironed the strips and exhibited them to visitors in the store. Women liked this visual test-before-you-buy idea.

●

New Device for Quicker, More Accurate Control



(*Left*) This new device is the Tri-Colourgraph, designed to enable planning engineers, sales directors and management generally to have a better command over the activities they control. The device, in fact, introduces a new element of control: automatic colour classification of conditions.

Three primary colour strips are projected through rollers over a common scale set in a channel. These strips being transparent, produce in all nine combinations of colour bars. The setting of the strips is exceedingly rapid, and the settings, once made, can be locked so as to render them tamper-proof.

Three major factors are present in most control problems. Thus: (1) Sales quota (2) Current sales (3) Past sales. (1) Raw material (2) Scheduled output (3) Actual output. (1) Current budget (2) Current expenditure (3) Past expenditure. (1) Reservations (2) Actual sales (3) Production forecast. (1) Stock issued (2) Stock received (3) Orders received.

A primary colour is allotted to each factor, and the operator merely sets the appropriate coloured strip to the scale value. The condition obtaining after the settings is automatically classified both as to colour and extent.

Thus raw material short of schedule would appear pink without any conscious action by the operator; it just appears automatically, according to the relationship of the strips as set individually.

Briefly, if you have three factors they will combine to give nine combinations. When dealing in terms of figures a considerable mental effort is called for to appreciate the relationship and significance of these combinations. In many business situations the full facts are not grasped, and many errors and false judgments arise from this cause.

The Tri-Colourgraph is a Kardex product. Full details can be obtained from Library Bureau, Ltd. (Kardex Division), 1 Leadenhall Street, E.C.3.

●

Helps Dealers Sell Non-Advertisable Goods

THE market, as represented by the professional photographer, is a difficult one for the manufacturer of photographic materials to stimulate. Yet the problem set up here is in lots of ways analogous to that which must be faced by many manufacturers who cannot go right to the ultimate consumer —the general public—with advertised lines of branded goods.

The only solution in cases like this is to concentrate on making the dealer realize his opportunities and to help him capitalize them.

This is exactly what Kodak, Ltd., are doing. And, wisely, they have set out their campaign to run a five-year stretch.

THERE are three main points in the plan: (1) the issue of a monthly publication, *Selling Portraiture*. The aim of this is to make the portrait photographer actively and progressively sales-minded by giving him the *how* of creating a bigger and steady demand from all classes of customers.

Point number (2) is a series of well-planned, dynamic dealer-aids for window and shop display. And number (3) is a comprehensive plan to help the dealer organize his business more effectively.

INCLUDED within this plan are various other business-producing aids. For example, Kodaks have designed two sizes of standard photo frames, to be sold complete with cartons. "Milestones" is a photo album designed to induce the public to keep photographic records of their children. Both these are strong inducements to people to become more frequent customers.

In this way Kodaks aim to get really well behind the professional photographic business.

●

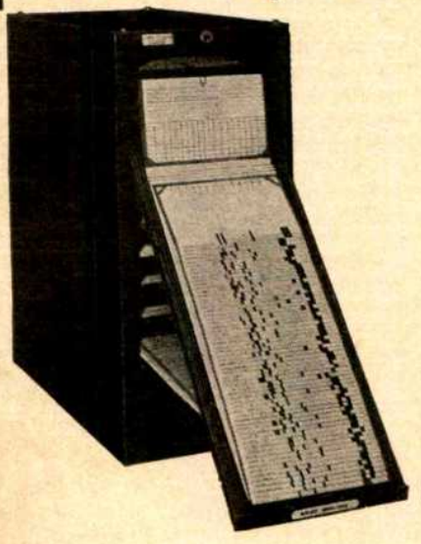
New Type Shop Breaks Tradition

A NEW idea in retailing is attracting a lot of attention to its sponsor in New York. It is a "Sleep Shop". Here are gathered together, in one shop, all the items associated with bedroom comfort. There are beds, bedding, bed-jackets, electric blankets, reading lamps, bedside tables and bookshelves, eye-shades, cigarette-holders and a host of other bedroom comfort gadgets.

The broad idea has been to ignore the tradition of opening a specific trade shop, such as a furnisher's or electrician's, and to open, instead, a shop offering all the related requirements for a particular need.

SALES and still more SALES

because Cope-Chat Control methods provide real Control

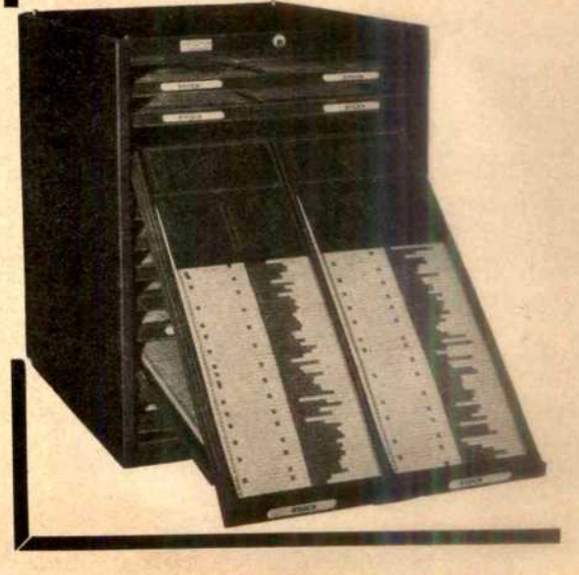


Amongst other things they help the Sales Executive to ensure that:—

1. New accounts are opened in sufficient numbers.
2. Existing customers are called on regularly.
3. Existing customers are giving all POSSIBLE business, and buying all POSSIBLE lines.
4. Prospects are adequately followed up by mail, call, or special offer campaign, etc.
5. Salesmen handle *all* lines effectively in *all* areas.
6. National or Local, Individual Line or Full Range publicity campaigns are effectively and economically conducted.

The Paramount Hand-Operated Punched Card method should be investigated by all who need analysis of Sales for any purpose. Automatically, from invoice or order copy, a junior can give you up-to-the-minute figures at any time. Ask for Leaflet A.3.

The keynote of all Cope-Chat Sales Control methods is SIMPLICITY. Devised by practical people who are always handling Sales Problems they are designed to provide for almost automatic Executive insight at nearly half the clerical cost. Some of the largest (and smallest) installations in this country for Sales Control have been put in by Cope-Chat. Nearly 50 years' experience in handling problems is behind our Service, which is FREE. Why not ask for leaflet A.41 ?



COPELAND-CHATTERSON Co.
EXCHANGE HOUSE • OLD CHANGE
LONDON, E.C.4
Telephone : CITY 2284 (4 lines)
BRANCHES THROUGHOUT THE PROVINCES

Marketing TRENDS . . .

Current Facts that will help in Shaping your Sales Campaigns

By the MARKETING EDITOR

Figure Paradox Hides Salesman's Paradise?

CONFLICTING trade figures cause some misgiving among sales managers as to plans for coming months, but—rightly—optimism is still keynote to marketing policies. Good, from mass market viewpoint, are heavy industry statistics, with steel production up 8.2 per cent, iron ahead by 17.2 per cent, and coal output increased by 2.9 per cent. This activity shows that Welsh, Midlands, North, and Scottish markets are in buying trim.

Other figures back up this view. Most important are: business activity +1.0; imports +12.0; exports +5.0; building +2.2; employment +0.7; electricity output +9.5; retail sales +8.3.

Increase in unemployment as compared with previous month's figures is source of worry to some. Overlooked is fact that there are more at work now than in February 1937, that returns show seasonal decline. Important, too, are building figures, which show this key industry is active and likely to remain so. Incidentally, Yorkshire, Lancashire, and Cheshire, North and West Midlands and Wales are centres of building work just now. Jot that in your note-book for selling furniture, furnishings, and household goods in these areas later this year.

For
News of
Active Home Markets
Turn to Page 54

And Squirrels Store Nuts, Don't They?

DO not overlook food storage suggestions now being made to public by Government spokesmen. It is the individual's job, say officials, to lay up stocks of storable food. Newspapers give support to idea. Which suggests foodstuffs manufacturers would find it worth while to try out a "stock your larder" campaign.

Different in source but similar in effect is to-day's drive by radio industry to sell a "spare" set to every home. Argument adopted is this: often two or more people in one house want to listen in at the same time to entirely different programmes. Rather than disappoint one and possibly cause resentment, etc., have a second set in another room.

Reports say this campaign has had some success. It and the food storage idea—apart from the latter's tie-up with war scare—do suggest a new angle to marketing when sales are "sticky". The idea of "carry a spare" is not new, of course, but its use to market ordinary consumer-type goods provides a fresh twist that is worth trying out.

NEW sales technique applied to old markets sometimes pays—witness branded ties success. Here, old-world trading ideas and method prevailed until recently. Then a nationally known firm found they had tie materials going to waste. Came the idea of mass-produced ties, branded and selling at a fixed price.

Country-wide advertising in volumes used for pushing other types of branded goods did the trick. Tie-selling technique became up-to-date overnight, proved again that any product turned out in mass can be sold in mass. Which is a lesson to manufacturers who think that "because it has not been done before it cannot be done to-day". Given right policy, good product, and sound marketing, there is business to be built in fields yet untouched by modern methods.

Sales 'Shock Squads' Help Beat The Big Competitors

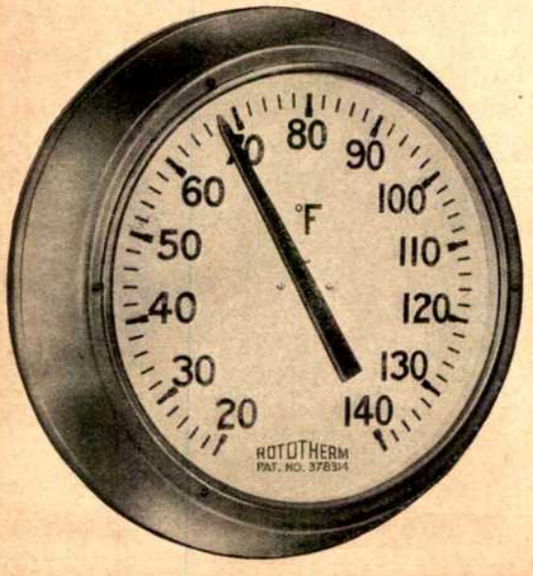
POLICY of small manufacturers to provide "shock troops" as well as sales-getting ammunition in struggles against big competitors is meeting with success.

Instance of this is found in milk industry's bottle versus carton war. Huge capital investment in bottle-washing, filling plant make big dairies tardy in taking up carton, change-over to which would mean scrapping plant. Small milk retail firms, not yoked by heavy plant investment, are using cartons, pushing up sales on claim of cartons' hygienic qualities.

Carton-makers find, however, that sales to milk dealers is only a start to their fight. Big bottle-using concerns, able to advertise and push their claims extensively, can "out-market" the little dealer. Hence need for more than "dealer help" methods.

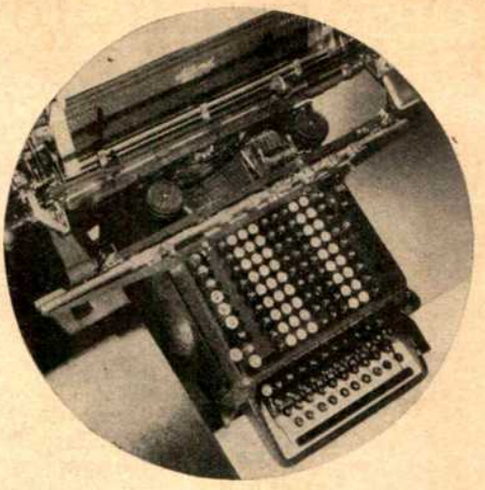
Best answer to date is found in sales "shock squads". These are teams of expert, door-to-door salesmen who, co-operating with the local dealer, make seven-, ten-, and 14-day attacks on selected districts. Primed to talk hygiene and advantages for carton-packed milk plus special qualities of the local dealer, these shock troops are building sales for retailer and manufacturer. Usual local advertising, gift schemes, etc., are used with these tactics.

Success of these policies and methods suggests way of attack for other manufacturers faced with withering competition from rich competitors.



Easy-to-Read Thermometers

With the coming tightening up, by the new Factory Act, of temperature regulations, together with the provision that a thermometer must be shown in those rooms to which the temperature regulations apply, the easy-to-read type of thermometer warrants attention. The one shown here is one of many designs produced by the British Rototherm Co., Ltd., Merton Abbey, London, S.W.19



Existent in the business world is an ever-increasing conviction that Accounting Machines manufactured by the National Cash Register Co.—embodying as they do the highest possible standards of manufacture and performance—are the most satisfactory mechanical accounting equipment available.

An invitation to see "Nationals" in operation is issued to the interested executive who feels that the efficiency of his business could be increased by the mechanisation of its accounting records.

A demonstration of National Accounting Machines will incur no obligation.

NATIONAL ACCOUNTING MACHINE SYSTEMS
NATIONAL CASH REGISTER COMPANY LIMITED
206-216 MARYLEBONE ROAD LONDON, N.W.1

Work is Hardest at the Journey's End

This 2-Tonner proves the importance of 'Terminal Efficiency'

'BUSINESS' Special Road Test No. 3 . . . . . *Bedford Two-Tonner*

By

RICHARD TWELVETREES
A.M.I.Mech.E.

Road Transport Editor
of BUSINESS

"WHAT we must have for this kind of haulage are trucks that will stand up to terrific stresses produced by work in places where loads are collected and delivered. If vehicles are strong enough for that, there is no need to worry about road performance between terminal points."

The above statement from Mr. H. Fairall, of Godstone, Surrey, who supplies building material on a large scale, summarizes his views on haulage vehicles, based on many years' experience in operating various makes.

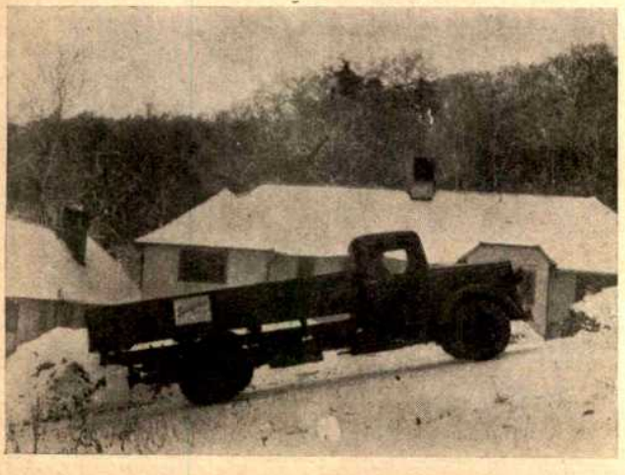
Since standardizing his fleet on Bedfords, Mr. Fairall says that these machines have established a quality of performance by which other makes can be judged fairly. As a matter of fact, I have heard the same opinion expressed in other quarters when discussing motor trucks with hauliers and have been asked to give an opinion as to whether such and such a model is as good as a Bedford.

While I have no intention of committing myself by comparing any one make with another on the present occasion, many readers will be interested to know how a Bedford 2-ton truck behaved when, with the assistance of an exacting operator, I tested the vehicle with particular reference to "terminal efficiency", a well-understood phrase in the haulage world.

"We took advantage of the really bad conditions, snow and pitted ground under water, to give the Bedford a gruelling try-out, but the flood water proved no barrier whatever"

For the purpose of this special test a standard Bedford 2-ton drop-sided truck was placed at my disposal by Vauxhall Motors, Ltd., Luton, who gave full permission for its use over any route I cared to select and left its treatment entirely at my discretion.

Things did not look too promising when we arrived at the Godstone sand-pit to collect our test load. Snow had fallen heavily overnight and more threatened, part of the track leading to the mechanical shovel was submerged; but, declining an offer of a more easily reached load from a near-by heap, I decided to let the Bedford demonstrate its aptitude for rough work under the worst possible conditions.



"On the frozen gradients it was dangerous to make braking tests, so they had to be omitted this time, but despite the snow the 'Bedford', with an overload, climbed steadily 1 in 4 and 1 in 3½ gradients.
"In wintry conditions the outstanding comfort of this vehicle's driving cab was most noticeable. Comfort is a great aid to drivers' efficiency"

Here Was Evidence of Good Waterproofing Qualities

Anything may happen when one enters deep waters on a strange vehicle, but the Bedford gave rise to no anxiety as we made steady progress through the ford on the way to the pit face, thanks to the ample protection of vital engine parts from chance splashes.

On taking the usual precaution of drying-out the brakes by several long applications, their normal efficiency was soon restored, and no other portion of the chassis mechanism suffered in the least degree from the presence of water.

Next, while running light over the snow, the truck revealed remarkably good driving-wheel adhesion, and its finger-light steering enabled us to keep a true course with no tendency whatever to skidding.

It was interesting to observe, too, that with no load to damp the natural resiliency of the springs, the suspension system kept the vehicle quite steady and free from bouncing, even where the track was roughest.

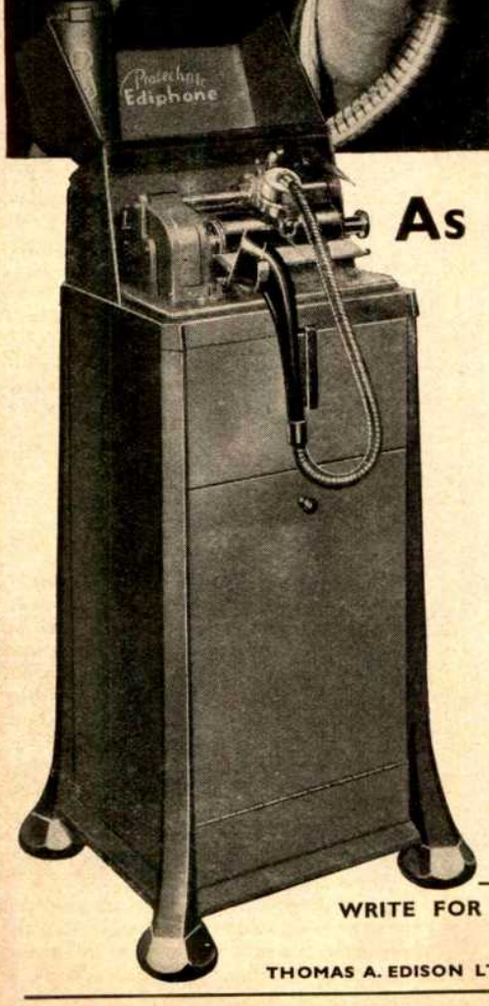
The long wheelbase model, by reason of the chassis layout adopted for all Bedford models embodying a six-cylinder engine mounted well forward in the frame, gives a body space measuring 11 ft. 6¼ in. long by 6 ft. 1 in. wide, so that after the mechanical shovel had dropped 3 cubic yards of sand into the truck, there was plenty of room for more.

Dealing with an Operator's Overload

I should have objected to the overload, but Mr. Fairall explained that his Bedfords always carry a bit of overload quite easily, so in order to carry out the test under genuine operating conditions I let it go at that. It should be realized that, while not agreeing with the average operator's views on the subject, I had undertaken the task of testing the Bedford under conditions to which the type is often exposed, whether such conditions be fair or otherwise.

One reason for allowing myself to be persuaded as to the amount of sand put into the truck was that when loaded the springs retained a reasonable amount of

(*Continued on page* 36)



As convenient as the telephone

AND AS SIMPLE TO USE . . .

Ideas flow too fast for longhand, and often for shorthand, too, even if a stenographer is available, but with an Ediphone at your elbow you can choose your own dictation time—and speed. The boon of Ediphone Voice-Writing is felt throughout the office: your secretary can plan her work methodically; less time is taken with routine; and the whole organization benefits. Ediphone Voice-Writing fills such a real need that, wherever adopted, it is taken for granted—like the telephone.

EDIPHONE SYSTEM OF *Voice-Writing*

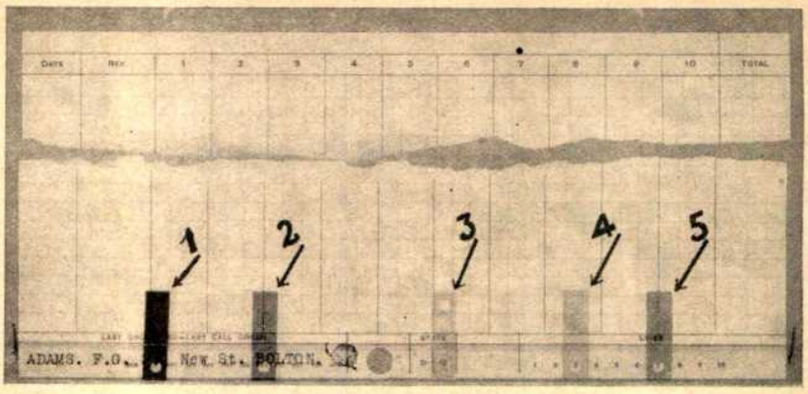
WRITE FOR FULL PARTICULARS OR FREE DEMONSTRATION AT YOUR DESK

Every responsible executive is invited to "sample" Ediphone Voice-Writing, without obligation. You buy nothing until the Ediphone proves its advantages

THOMAS A. EDISON LTD., VICTORIA HOUSE, SOUTHAMPTON ROW, W.C.1. *Branches & Dealers in all Principal Cities*

Planning The *OFFICE Side* Of A Quick-Action Sales Control

By 'Business' CONSULTANT on Office Organization



Customer's Record Card. Control Signals show: 1 (green) Month of traveller's last call; 2 (red) Month of last order; 3 (pink) If customer's sales are UP, DOWN or NORMAL; 4, Each line distinctively coloured as purchased; 5 (yellow) Line customer COULD buy but does NOT

FOR this example, which illustrates the precise type of sales control I recently installed in a well-known firm, I am taking a concern having ten lines, or ten groups of lines, sold nationally, through retailers.

These are The Various Points Provided For

As is usual with most firms with this type of sales management problem, some of these lines are advertised lines, some are not; some are consequently easier to sell than others, which are perhaps more profitable to the firm. Territories and their possibilities differ and so do salesmen, and I am assuming the usual difficulties in ensuring that—

(1) A good proportion of new accounts are opened.
(2) Existing customers are regularly called on.
(3) Existing customers are giving all possible business and buying all possible lines.
(4) Prospects are adequately followed up by mail, call, special offers or campaign, etc.
(5) Salesmen sell the whole of the lines wherever possible and do not take the path of least resistance by taking advantage of publicity-created demand and so neglect the other, harder to sell but more profitable lines.
(6) Local and national, individual line or full range, publicity campaigns are conducted efficiently and economically and synchronize with salesmen's efforts.

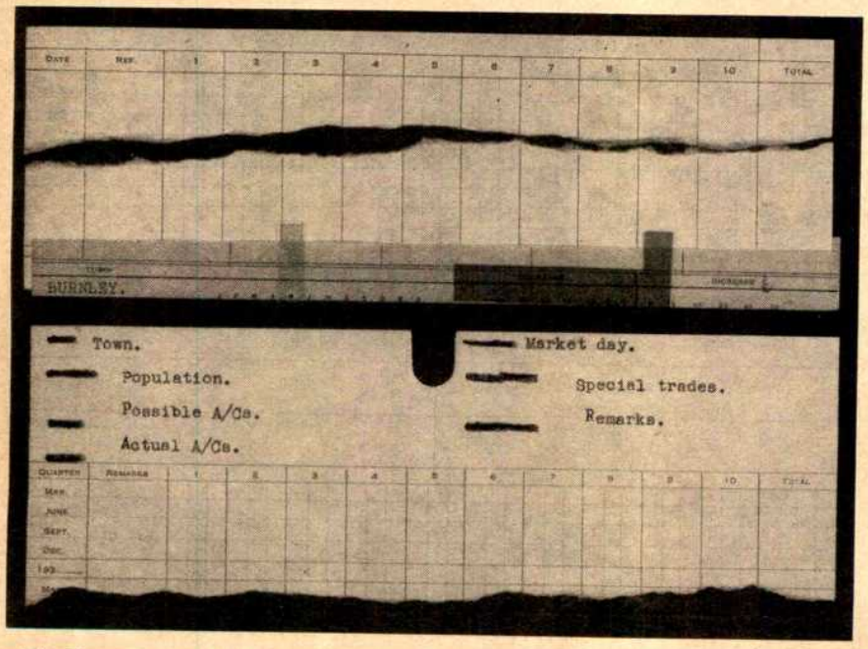
The basis of this sales control scheme consists of two cards—a Customer's Record Card and the appropriate Salesman's Call Card. The system is the product of Copeland-Chatterson Co., Ltd.

Customers' Purchases Analysed

As will be seen from the illustration, the customer's record card is ruled so as to show in total and in analysis, over lines, the customer's purchases together with the date of purchase. This card is doubled and with four recording surfaces provides a long life record. On the visible edge is a printed scaling so arranged that typing in customer's name, address and other details is easily accomplished.

Control Signalling

The printed scaling shows a range of months and over this are to be placed two signals—green (or other colour) to indicate the month of traveller's last call, and red to show the month of last order. Here it is advisable to mention that weekly calls and ordering can be covered just as easily as monthly calls or orders. No matter what the need is, it can be met with an individual scheme.



The Town Record Card analyses sales by lines per town. Coloured signals on front of card show month under review and percentage rise and fall of sales. Lower part shows reverse of card carrying other useful data

Non-Purchasers indicated and Classified

This method of visible signalling shows up at once those customers who have not purchased for one, two, or three months, or any period specified, and, without disturbing the filing order, provides classified lists for appropriate action.

It is assumed that the bulk of customers buy fairly regularly, and as sales to them are recorded, so the signals are moved, leaving outstanding, in direct period classification, those who have failed to purchase for any period. In the same way the signals show up immediately any neglect by the salesman to call, or his failure to secure an order upon his call.

Allotment and Control of the Salesmen's Work

To ensure that the salesman will call, and to secure details of sales and other information, a salesman's card is utilized. This card is placed in the folded customer's card and is to be seen

Up Goes Business

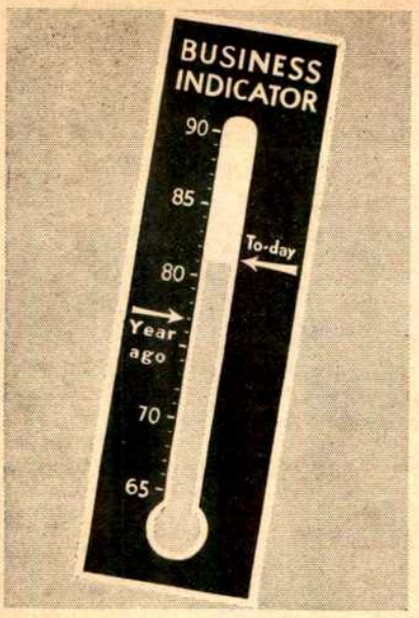
. . . but down come accounting costs with unique machine that posts any number of records at once.

AS business increases and new conditions demand more and more records, many company heads are wondering how to keep book-keeping expense down.

Here is the answer, already proved by successful use in thousands of concerns . . . the Remington model "86" machine which posts any number of related records in one simple operation.

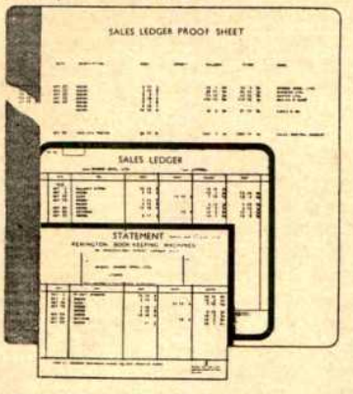
Computation is fully automatic. Visible registers let operator check accumulated totals at a glance. Printing mechanism is completely electrified . . . all records are prepared with uniform legibility.

Just a brush of a finger on any key and the machine does the rest. Judge the model "86" on the basis of how much it can save your Company, compared with pen posted methods or ordinary accounting machines. Phone Remington in your town for free accounting analysis or write Remington Typewriter Co., Ltd., Reference J.J.189, Accounting Machine Division, 100 Gracechurch Street, London, E.C.3.



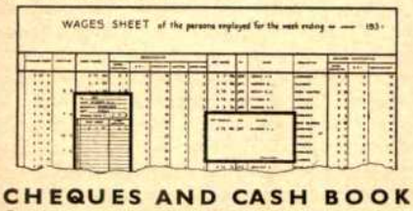
SALES LEDGER WITH STATEMENTS

Three vital records posted at one operation with the completely electrified Model "86". (1) Customers' Statement (with duplicates if desired); (2) Customers' Ledger; (3) Journal. Daily and monthly control figures supplied automatically without any additional operations or personnel.



WAGES ACCOUNTING SIMPLIFIED

No need for separate posting machines or extra clerks. Model "86" prepares all the following wages records at one posting. (1) Employees' Wage Record Card showing gross earnings and all deductions; (2) Employees' earnings and deduction stub; (3) Employees' envelope; (4) Wages Sheet. All cross casting and column totals are automatically made by the Remington "86".



CHEQUES AND CASH BOOK

Certainly this is the way to write the Cheques, produce and add the Cash Book and protect the cheques—all at one operation. Get the work done in one-third of the time, on the Remington "86".

No other Machine, at any price, gives you all these features

1. Complete electrification of all alphabet and numerical keys, and of carriage.
2. Complete flexibility of registers, providing extra accumulations without rebuilding or replacing machine. Additional registers limited only by length of carriage.
3. All registers visible for columnar accumulation and with cross computation. All registers equipped with direct subtraction, providing contra-entries within specific column, and instant correction of errors.
4. Automatic tabulation, and interchangeable form bars.
5. Complete visibility of writing line, permitting easy checking of every entry.
6. Automatic line proof of each individual entry provides instant audit.
7. Independent control of each related form to be prepared simultaneously.
8. Uniform legibility of all records.

REMINGTON
ACCOUNTING MACHINES

through the hole punched in the visible edge for the purpose.

These cards can be easily withdrawn in order to hand or post to the salesman concerned; thus his work can be determined and fully supervised. The card can be arranged to accommodate special instructions for each customer, such as inducements to take greater supplies, or to purchase a greater number of lines.

It would contain information of use to the salesman, such as name of buyer, terms, phone number, best day and time to see, principal lines purchased, lines bought away and reason, etc., and would also cover matters requiring attention on call.

While the card is in the possession of the salesman the clear punched hole in the customer's card reveals the absence from the record of the salesman's card.

The value of being able to plan and determine the salesman's work is enormous. Amongst other things it ensures that intensive sales effort by executive, representatives, and publicity is perfectly synchronized.

Fluctuations in Purchases Indicated

The next control facility is afforded by the two spaces marked D. U. upon which a signal is placed to show if sales to the customer are *Down* or *Up*, normality being shown by placing the signal between the two spaces.

The Sales X-Ray

It must be remembered that no less than 124 cards are visible, so it is easy to detect *at one glance* all those who are giving smaller orders. Seen in large numbers like this it is much easier to assess the merits of a salesman or to find out weak spots or places and customers for whom special action seems desirable.

Intensive Selling

Then there is a further scale upon which is a list of numbers representing the lines carried. As each order is placed a signal is put over the number representing the line purchased; on the list of customers there are indications showing what these customers buy. Using, say, a blue signal for this purpose, it is of great value to use, say, a yellow to show the lines which each customer *could but does not* buy.

In other words, a classified prospect list is incorporated in the customer's list, and it is thus easy to direct an intensive as well as an extensive sales campaign.

Many firms have a sales control problem similar in principle to that involved here. Readers can therefore visualize how the flexible and widely analytical system explained here by our consultant could be applied to their own particular cases

Judicious Mailing

Mailing for various lines can be judiciously done and sales effort properly directed. Customers cost a lot of money to get. It pays to build on the foundation laid by making each as far as possible a 100 per cent customer.

Use can be made of signals for various purposes, such as a red signal in the extreme left-hand corner for "stop credit", and so on.

Summary for Comparisons

In the under-section of the previous pocket, that is, facing the customer's current record card, is placed a further card which carries full details of the customer. His status, referees, bank and other details, together with a quarterly or other period summary of his purchases.

This summarized portion is the comparison of the analysis showing the progress made with the customer and indicates the Down—Up—Normal of his dealings with the firm. Altogether a very valuable combination of records.

Town Results Shown

Separating the customer by towns is a Town Record. This is a detailed and analysed current record card showing sales of lines in the town, and a summary card which would show analysis and comparison.

The *rulings* can be the same as for customers' cards, in fact, the same cards will do, and the division and distinction can be made by a coloured insert strip to carry the altered signalling scheme for town and territory control.

Upon the strip is printed a scaling showing the percentage rise and fall of sales in that town. A further scaling indicates the month under review.

The town current record card is in the facing pocket—it is exactly similar to the customer's current record card, but the summary card, in the under-portion of previous pocket, can show town details, such as number of possible and existing customers, population, market or closing day, trades carried on, or other information of interest.

These cards cover several years, and the information and the comparisons are valuable.

Territories Controlled Through Analysis

As a means of further tightening up the control by getting a more comprehensive view of the activities, a territory and line record is shown. I suggest that territory and line cards should differ in colour from customers' cards.

These show sales of lines by territories on the basis of a card for each line, a set of the 10-line cards being arranged under each territory card. Provision has been made in the ruling for the total of the current month's sales to be entered in one column, and an accumulative total for the progressing year to be entered in another.

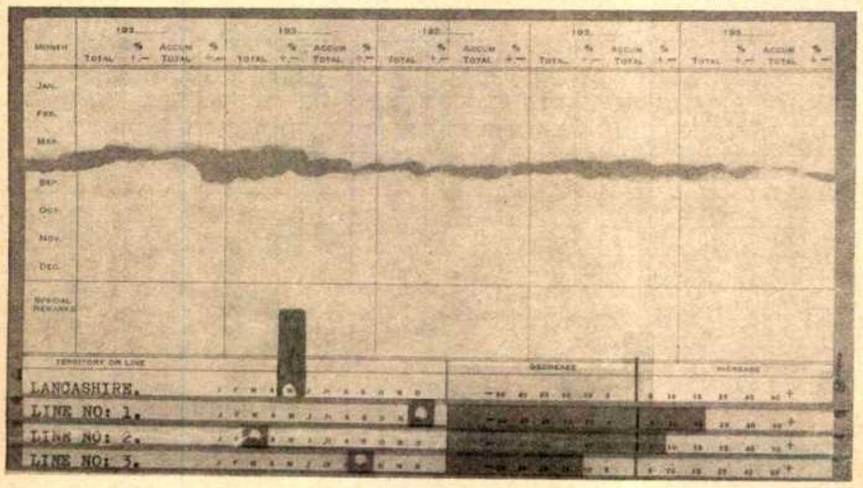
In each case a column is provided for recording the percentage of increase or decrease of sales of the particular line, and to enhance control, and make the portrayed result more striking, telescopic signals show the position of each line, whilst the territory signal would show the aggregate for the territory.

Aggregates are dangerous and can lead to false positions, so in this case the aggregate shown on the territory card, for all lines in that territory, is detailed below on the line cards, and shows the actual position for each individual line. Thus attention can be properly focused, weak points can be strengthened and strong points made stronger still. Here the comparison is on each card, and the analysis is made by a series of cards.

Line Analysis and Control

Finally, line cards covering the sales of each line over all territories, showing totals, accumulative totals, and percentage, plus and minus, and signalling the latter important facts are listed under one comprehensive master card which shows the sale of all lines over all territories.

Thus from the most minute details to the most inclusive and important fact, the whole of the selling side is efficiently and economically covered.

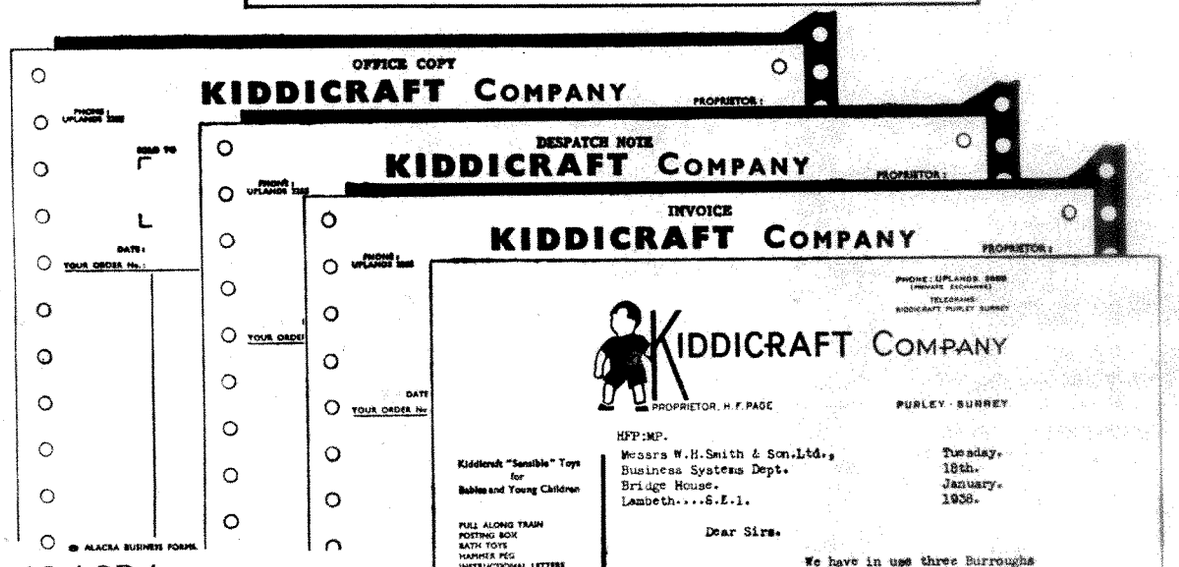


These cards give visible records of each line per whole territory; coloured signals give percentage rises or falls of sales

"During the year . . . not one moment's time has been wasted" says KIDDICRAFT of

ALACRA

PINWHEEL FEED SYSTEM



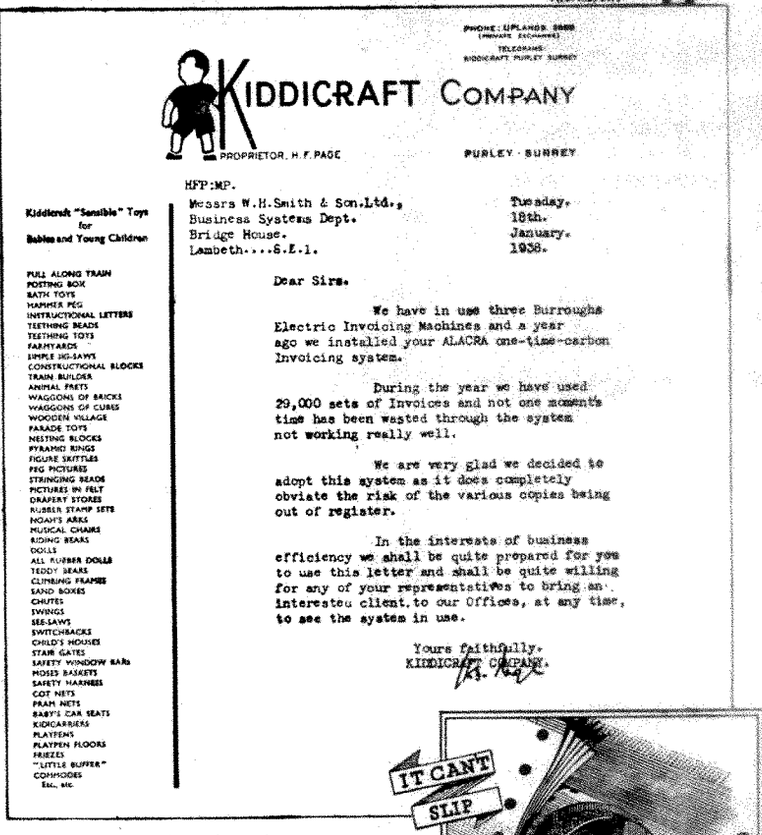
ALACRA business forms flow in a smooth, unbroken stream through any standard typewriter or business machine where continuous stationery can be used.

No need for tiresome "squaring up" and careful insertion of paper, carbons and copy sheets; no tedious "re-squaring" and unsightly smudging after the job has begun — time-wasting, irritating operations ended forever by *ALACRA*. The paper cannot creep or buckle—cannot shift, except smoothly and evenly forward as the work proceeds, ensuring micrometrical accuracy and *greater output, with less effort.*

Zip-tab carbons, instantly removed, obviate doubtful copies and further eliminate waste of time.

Handwritten records, too, can be similarly produced by the *ALACRA* Pinwheel Feed System.

ALACRA is saving money for commerce in all parts of Britain. You cannot afford *not* to investigate how this system will lower your record-keeping and accounting costs.



KIDDICRAFT COMPANY

PROPRIETOR, H.F.PAGE — PURLEY · SURREY

HFP:MP.

Messrs W.H.Smith & Son,Ltd.,
Business Systems Dept.
Bridge House.
Lambeth....S.E.1.

Tuesday.
18th.
January.
1938.

Dear Sirs.

We have in use three Burroughs Electric Invoicing Machines and a year ago we installed your ALACRA one-time-carbon Invoicing system.

During the year we have used 29,000 sets of Invoices and not one moment's time has been wasted through the system not working really well.

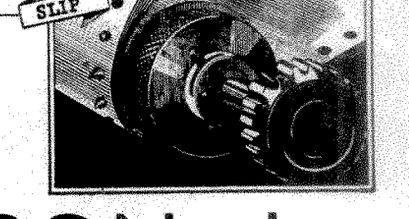
We are very glad we decided to adopt this system as it does completely obviate the risk of the various copies being out of register.

In the interests of business efficiency we shall be quite prepared for you to use this letter and shall be quite willing for any of your representatives to bring an interested client to our Offices, at any time, to see the system in use.

Yours faithfully,
KIDDICRAFT COMPANY.

Kiddicraft "Sensible" Toys for Babies and Young Children

FULL ALONG TRAIN
POSTING BOX
BATH TOYS
HAMMER PEG
INSTRUCTIONAL LETTERS
TEETHING BEADS
TEETHING TOYS
FARMYARDS
SIMPLE JIG-SAWS
CONSTRUCTIONAL BLOCKS
TRAIN BUILDER
ANIMAL PARTS
WAGGONS OF BRICKS
WAGGONS OF CUBES
WOODEN VILLAGE
PARADE TOYS
NESTING BLOCKS
PYRAMID RINGS
FIGURE SKITTLES
PEG PICTURES
STRINGING BEADS
PICTURES IN FELT
DRAPERY STORES
RUBBER STAMP SETS
NOAH'S ARKS
MUSICAL CHAIRS
RIDING BEARS
DOLLS
ALL RUBBER DOLLS
TEDDY BEARS
CLIMBING FRAMES
SAND BOXES
CHUTES
SWINGS
SEE-SAWS
SWITCHBACKS
CHILD'S HOUSES
STAIR GATES
SAFETY WINDOW BARS
MOSES BASKETS
SAFETY HARNESS
COT NETS
PRAM NETS
BABY'S CAR SEATS
KIDCARRIERS
PLAYPENS
PLAYPEN FLOORS
FRIEZES
"LITTLE BUFFER" COMMODES
Etc., etc.



AT RIGHT—Showing "*ALACRA*" Pinwheel. Pins emerge from the platen as it is turned, mesh with marginal punchings and guide the paper and carbon sheets through the machine in a continuous stream.

Write or telephone to-day to:

W. H. SMITH & SON, LTD.

BUSINESS FORMS DIVISION, BRIDGE HOUSE, LAMBETH, S.E.1

HEAD OFFICE: STRAND HOUSE, PORTUGAL ST., LONDON, W.C.2. TELEPHONE: HOLBORN 4343

Mechanical Checker Raises Output of Office Machines by 8 Per Cent

A STATISTICAL machine used by a nationally known manufacturing and retailing firm has been made to produce 8 per cent more work through means of a production checking device. In addition, this increased output (*a*) has made unnecessary the purchase of further expensive office equipment and (*b*) is taken care of by the existing staff.

The company concerned have a highly mechanized office, one of the most efficient in the country. The enormous volume of records handled by their office made it possible to operate economically a battery of electrically operated statistical, accounting, book-keeping and other machines. The organization of this machinery and the work done was such that the firm thought they were using every machine to its fullest capacity. Indeed, their system of control was so good that the cost of the smallest operation or the least amount of material was known down to decimal points of a penny.

Saved the Expense of Buying More Equipment

Thus, when the company found they needed additional statistical information they were prepared to buy new equipment, provide extra staff and find additional floor space. But before they did this they were persuaded to test their existing office plant by means of a mechanical recorder. This recorder, a small machine which operates through the vibration of the plant to which it is attached, gives a minute by minute record of whether the machine being checked is idle or in operation.

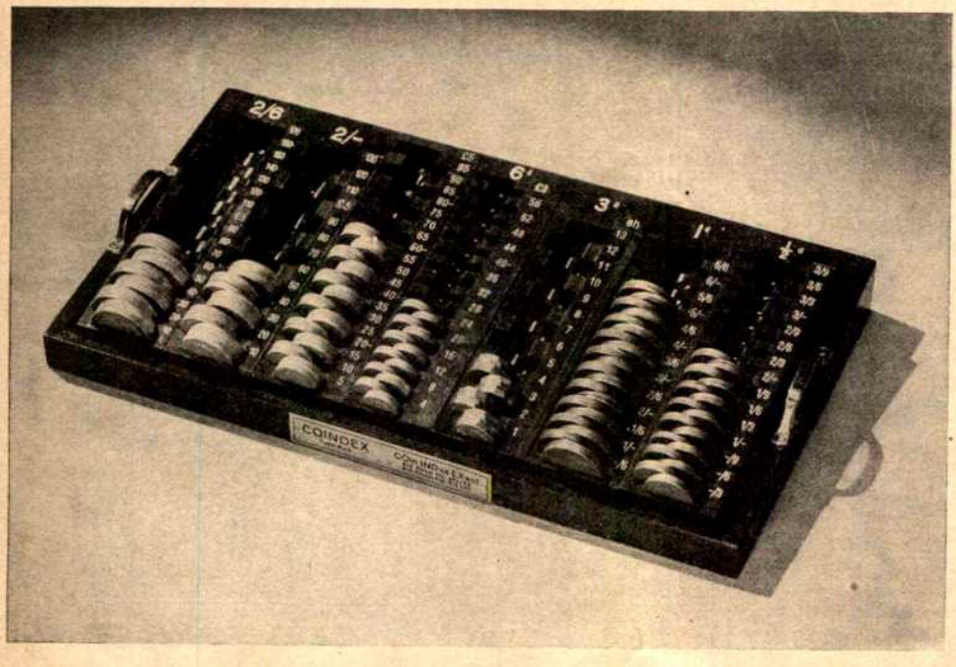
When the company fitted this work-measuring apparatus they were sceptical, but results soon changed their outlook. The recorder charts showed that, in total, the machines were idle almost 8 per cent of the working week.

This time waste was more than enough to cope with the special work to be done, and having gained precise knowledge of how their machines were running every minute of the day, the company were able to reorganize operations to take in the additional work. No extra staff was needed, nor was it necessary to buy a single piece more of office equipment.

Similar Savings Made On Factory Plant

Since this unexpected success in revealing inefficiency the company have made use of the recorders on machines in their factories. The same sort of check was carried out and similar discoveries of considerable periods of non-working time came to light. Insignificant stoppages that hitherto had gone unnoticed were revealed by the recorder charts. On one key machine, the output of which affected the whole factory, the check resulted in a 7 per cent increase in production. This came about because all the tiny stoppages were clearly shown on the charts and subsequent investigations into the cause of these hold-ups showed unsuspected small weaknesses in organization.

The recording apparatus which has been responsible for these economies can be attached to any office or factory machine. It can give records down to a fineness of 10 seconds check. In other words, if you wish to know what any machine is doing every 10 seconds of the day, you can find out by means of this type of recorder.

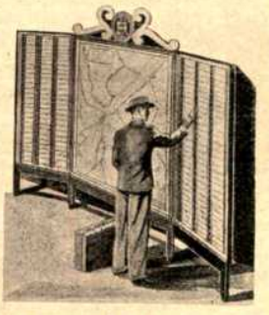


Obviates Coin Counting: *This cash counting tray (the 'Coindex') tells at a glance the amount of petty cash in hand. For giving change, paying out, assembly when making up wages, etc., it saves time and reduces risk of errors. Even worn coins do not interfere with its accuracy. Can be had in various sizes, including a large model with lock and key, from Quickfor Ltd., 40 Furnival Street, Holborn, E.C.4*

Sheffield's Automatic Guide Helps Business Visitors

Would Prove a Boon in Every Large Industrial Centre

TO save time and trouble for business visitors to Sheffield who do not know the city well, the Sheffield Junior Chamber of Commerce have installed at the city's two railway stations, electrical indicator-maps. By their use a visitor can discover not only the exact location of the office of any one of a very large number of Sheffield firms but also the nearest point at which public transport to the premises can be secured.



These maps, which have proved a boon to thousands of visiting business men, are "managed" by the Sheffield Junior Chamber of Commerce out of small fees paid by the firms whose names appear. These fees are as low as 20s. a year for the two or the first three years and 13s. 4d. a year thereafter.

This is a good example of how a live Chamber of Commerce can initiate schemes that are really practical and helpful both to their members and to the thousands of business men with whom they want to develop association.

How Office Printers Cut Costs

WE were present with the executives of a Nottingham firm when they ran off their first job with a newly installed office printing machine. The run was 5,000 of a rather complicated leaflet in half-tone illustration and type, printed both sides.

The cost of the machine plates for the run was £4 10s.; but the executive told us that a similar job had always cost over £10 for *half* the quantity when done by an outside printer.

This firm is planning now to print all its publicity and sales promotion matter, as well as stationery, inside the office. The machine used was a Class 1,000 Multilith.

THE NATIONAL SAVINGS SERVICE

PRACTICAL KNOWLEDGE obtained from twenty-one years of experience and experiment lies behind the assistance which the National Savings Committee is able to offer to employers who wish to introduce savings facilities for the benefit of their employees.

THESE FACILITIES make it easier for employees to provide for the needs of both the near and the distant future, including retirement. Thousands of firms have introduced one or another of the National Savings ways of saving with memberships ranging from 5 to 5,000 and over. A new development provides an easy method of dealing with the banking and administration of Holiday Pay allowances.

THE NATIONAL SAVINGS COMMITTEE will always be pleased to arrange for one of its representatives to visit a firm with a view to discussing on the spot what are the particular requirements, and to suggesting ways of meeting them. Concrete schemes, based on data provided by individual firms, can be submitted.

EVERY ASSISTANCE will be given in starting the scheme, including the provision of a speaker to address employees, and the preparation of a special circular letter for distribution. Membership cards, books, etc., are supplied free.

Enquiries should be addressed to the

NATIONAL SAVINGS COMMITTEE *(Dept. B.6.F)* **LONDON . S.W.1**

BUSINESS EQUIPMENT REVIEW

TIME CONTROL . . . Vital To Business To-day

'Minute Check' Is Given On All Work Hours By These Machines

By a 'BUSINESS' INVESTIGATOR

IN the world's most up-to-date factories to-day it is usual to find that all operations are calculated as *time*. To distribute stores, to make a casting, to produce a given quantity of goods—these are reckoned as worth so much time, not this or that amount of £ s. d. In some concerns wages are seldom referred to except in terms of minutes and the minute wage rate. The composite term, "wage or labour cost" is the product of time and wage rate, and since the latter is subject to arbitrary change, measurement is best related to time. This trend towards thinking of costs in terms of time is extending throughout the business world.

Fundamental to this policy is accurate timing of the number of hours worked by employees. It is a key factor in costing and smooth working of systems. But there are still hundreds of firms that use the roughest methods—if they use any at all, of checking staff in and out, morning, noon, and night. Until this elementary job is carried out efficiently, the value of costing and control is in doubt.

Control Is Maintained By These Recorders

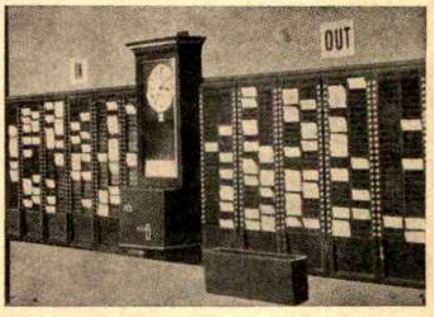
Time recorders provide simple and effective answers to these problems. Take, for example, the recorders made by the Gledhill-Brook Time Recorders Ltd., of Huddersfield. I examined the range of them last month. They rank among the best machines of this kind that can be produced to-day, a fact that is reflected by the big volume of sales built up by the firm.

Most people know a time recorder looks like a clock. It must be a perfect time-keeper as well as an infallible time recorder. That is why Gledhill-Brook clocks are built on the fusee and chain principle which ensures an equable drive every day of the week. The ordinary clock, driven by springs, has no compensation for high and low tension, therefore it is driven by varying force from day to day. The proved principle of the G.-B. clock is made more valuable by the quality of material and workmanship. The mainspring, for example, is made of steel 300 per cent more expensive than that normally used for such purpose. Thick plates, dead-beat escapement, machine-cut pinions and gears are other features which ensure perfect clock movement.

Similar quality of material and manufacture is found in the patent time printing mechanism and day-change. Characters for printing hour and minute figures are machine-cut. There is a positive drive to the hour wheel, thus ensuring time recorded on cards and time indicated by the clock dial are always identical even though the clock hands are turned back.

Summed up, the advantages of the recorders are these: They (1) save time; (2) save money; (3) are fool-proof; (4) are fair to employer and employee; (5) are enduring; (6) are usable in production-cost systems, etc.

Points number one and two are quickly proved. The introduction of a time recorder to factory, office, shop, or other business provides an immediate check on time lost by late arrival, early leaving or any other irregularity. Staff, knowing the machine is fool-proof, see that they punch their cards to time.



Time lost when no impartial check exists is therefore saved through the machine, which means a money saving. In instances where slackness is rife, a firm can quickly make savings that will pay for the machines. There is, too, a big saving to be made on clerical labour. Often it is sufficient to pay for the machines in a year. The saving comes from short-cuts in dealing with pay-roll, labour statistics, allocation of costs and other time-factor operations in which the recorders play a part.

The mechanical features I have mentioned, together with other technical factors, make the machines fool-proof and, therefore, fair to both employer and staff. The quality of material and workmanship ensure long life no matter how roughly the recorder is used. Indeed, it is because they must stand up to hard use that they are built so sturdily.

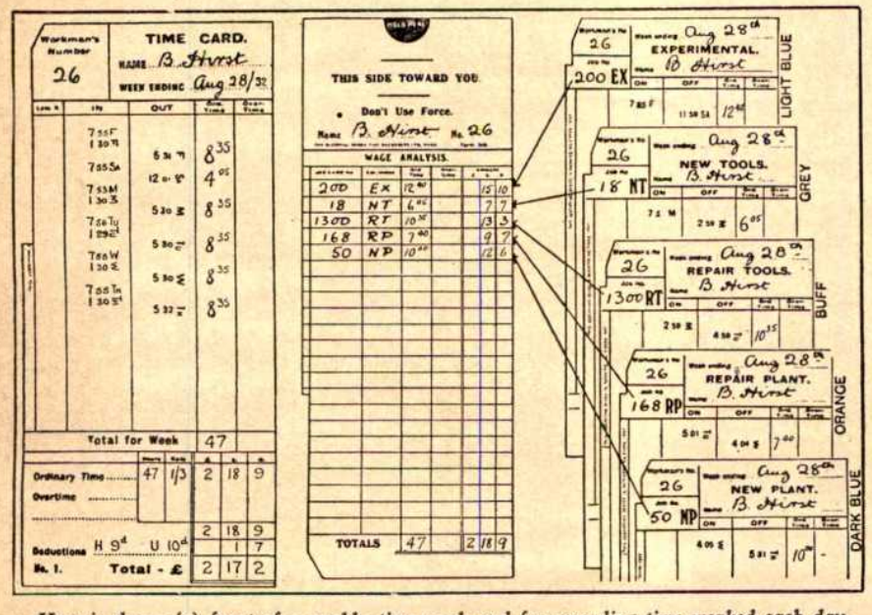
Time and production cost-control I found the most interesting feature to do with the recorders. The Gledhill-Brook company offer a free organization service. They have specialized in devising methods and systems which are simple, direct, time- and money-saving. Costing, cost control, wages and labour statistics, office and works costing—these and many others come within their scope.

No rigid system or method is advocated. G.-B. experts examine each case and suggest a cheap and quick solution to its special problems. This free service has been the means of saving firms, big and small, thousands of pounds.

System Keeps Track of Job Times

Let us take a simple example, the combined time and job card for recording complete labour cost. It is a system particularly suited to works where jobs are completed by one man and where long runs are made. The "in" and "out" time of the workman is recorded on the card. So also are the times when jobs are changed. Time on jobs is cast out at the side of cards. Total hours are entered in the job number column under the job number.

Cards give complete time costs of all jobs finished within the week covered by the card. Unfinished jobs are entered at the foot with the job number. Total hours worked are entered under the column headed "Carried forward" and are transferred to the column "Brought forward"



Here is shown (a) front of a weekly time card used for recording time worked each day, (b) back of the same card used for summary of jobs, and (c) individual job cards. These job cards are in different colours to denote class of work and make easy the sorting to sectional costs

on next week's card. Time worked on the job during the second week is entered in the "Time for this week" column. If the job is completed in the week, total time is added and entered in the "Finished jobs" column; if uncompleted, the total is carried forward into the next week and so on until the job is done.

Where several men are working on one job, the weekly total of time can be posted to a cost card or sheet. This shows all time spent by all the men on the one job during the week.

Such a system as this is simple and direct—about the simplest that can be devised. Nonetheless, it works excellently. An instance is the fact that a clerk can give the total time on any job at any minute of the day.

Another system is that of "one man job, one card". With this method a weekly attendance card takes care of the overall time spent in the factory. Times of arrival and departure are printed by the recorder on one side of the card. Separate job or operation cards are issued and these are clocked "on and off". Job cards, when clocked off (and at week-ends), are summarized on the reverse side of the attendance card, which is the proof that all time paid for has been allocated to the appropriate cost account. The individual cost cards are sorted to jobs and operations and entered on comparison sheets.

Time recorders, linked up in this way with factory, office or shop control, are more than "mechanical watchmen". That is one of the strong points made by the Gledhill-Brook concern. It is the reason why they have developed a staff of systems experts. These men will investigate, free of charge, your problems of time and production costing and control.

Cash Register That Checks Daily Returns

THE successful future of a shop or store depends largely on the efficiency of its cash-checking system. The cash register is, therefore, an essential part of equipment.

There are many good registers on the market to-day. Those produced by G. H. Gledhill & Sons, Ltd., Halifax, I investigated last month. Their latest production has many novel features, including: flexible keys by which the largest amount can be registered with two fingers only, thus preventing awkward finger-stretch; new detail strip which gives a printed statement of every transaction and prints the total takings at any period.

The sub-total can be read and printed hourly, daily, or as often as required, but the adder cannot be zeroised by the sub-total key. This enables the manager to pay cash into the bank and send a printed card to head office.

The grand total enables the proprietor or his deputy to make a periodical check on the daily returns sent in by the manager or assistant. It can be read and printed, thus being an audit check upon receipts. Only by means of the grand total key can the adder be set to zero, ready for the next financial period—weekly, monthly, or as desired.

The "Monarch" Cash Register was introduced in 1931. Since then many improvements have been made, notably the visible adder and the detail-strip model.

This "all-British" cash register has been very successful in the past two years. The number produced has been doubled every six months. A new three-story factory was recently put up and equipped specially for the manufacture of this model.

THEY GREW WITH Smiths

★ Since Dr. Scholl first began to put his ideals into practice, "Scientific Care of the Feet" has come to occupy its rightful position on a level with such health services as Dentistry and Optics. The Dr. Scholl Service is now world-wide and its advertising (issued throughout in co-operation with Smiths') has played no small part in this remarkable achievement.

Dr Scholls

★ This successful multiple shop concern grew, in association with Smiths', from 20 retail branches to 46 and now claims to be the largest of its class dealing direct with the public. In addition there is a mail-order trade of sufficient magnitude to carry the whole firm's advertising costs.

W. J. HARRIS

★ When this famous City business decided to make use of advertising they wanted "something different." They came to Smiths'. The originality of the advertisement which we produced places it in that small and select group that may be termed "classic." Its value as a "sales-maker" may be judged from the fact that it has been used continuously ever since—and is still active.

TRELOAR

Brief records of three examples of amazing business development. Three famous names; nationally—even internationally known, successful businesses. We are proud to number them among our clients. Mark this: in common with so many SMITHS' accounts, they did not come to us as successes. *They were built up into successes*, with our assistance. Is not this convincing proof of our capacity for making *your* advertising pay?

GROW BIGGER

THROUGH CO-OPERATION WITH Smiths

ADVERTISING AGENCY LIMITED

Successful Business Builders for over 50 years

100, FLEET STREET, LONDON, E.C. 4 *Telephone* CENTRAL 1740

A FOOLPROOF REPRODUCTION OF *ANY* DOCUMENT

made by any of your staff in a few minutes

by

RUTHURSTAT

ELECTRO-COPYIST

Laborious typing and checking of original documents such as intricate specifications, etc., is now a thing of the past. The Ruthurstat reproduces exact and speedy copies of almost any original. It is used by leading commercial houses, banks, and the heavy industries, etc. Apart from documentary copying it saves tracing of detailed plans, and furthermore will make copies direct from blue prints.

Copies :

Letters	Specifications
Deeds	Claim Forms
Plans	Policies
Certificates	Charts
Contracts	Blue Prints
Statistics	Reports
Bills of Lading	Tenders

etc., etc.

Write for full particulars to sole manufacturers :

RUTHURSTAT

LTD.

12-13 ASTOR HOUSE

ALDWYCH . W.C.2 HOL. 4737

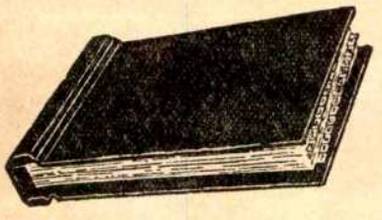
Patent Pending

Full range of sizes from office models to 42 in. × 32 in. engineering model

No Dark Room Required

No Skilled Operation

No Checking



A PRACTICAL, TIME-SAVING RECORD-KEEPING SYSTEM

Hundred of concerns, big and little, use the "ROBIN" Looseleaf Book system of record-keeping. It is so simple—so efficient. Any entry can be referred to in a few seconds. No "dead" records need waste time and space. Flexible, compact, reasonable in price and upkeep. Would you like further details ?

SPECIAL TRIAL OFFER

ROBIN BOOK, 5 ins. by 8 ins. comprising looseleaf binder, bound full maroon buckram, A-Z index and 200 leaves (feint, cash or double ledger) **9/6**

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Bound half maroon pigskin **12/-**

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Looseleaf Book Manufacturers

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SUBSCRIBERS are entitled to free information concerning Products, Appliances or Services.

We will advise, secure printed particulars and, if desired, put you in touch with firms supplying services or products in which you are interested.

Service Department, BUSINESS,
Whitefriars House, Tallis Street, E.C.4

Management Needs the Knack . . .

(Continued from page 12)

•

so that when an adverse year comes along, and there are no profits for distribution, considerable dissatisfaction becomes manifest.

To this let me say, if such a disturbance arises, it shows first of all that the management has not taken the trouble to explain fully the principle of profit-sharing. And secondly it shows that the scheme was badly administered.

In our organization risk of the first contingency is disposed of by rightly educating the employees. The second is guarded against by providing out of the distributions a substantial investment fund.

Our employees' investment fund at the moment, for example, stands at over £10,000. On mutual agreement this could, in the case of a bad year, be drawn upon to maintain the cash distributions.

Responsibility Improves Their Business Understanding

Our employees' committees administer their own investment fund. But they are given assistance and advice by the management, and here again is management's opportunity to educate employees into understanding *how* it is possible, out of a business, to accumulate money for investment. How to handle investments; what are the benefits of invested money, and what are its responsibilities and liabilities are also things that must be explained.

Here, then, I have tried to point out how employees can be raised from the standard of mere wage-earners to the status of responsible men and women *co-operating* with the management of a business instead of being hostile to it.

This improvement alone would be of tremendous benefit to industry as a whole. But improving the mental status of the employee is not the only factor introduced. Intelligent profit-sharing, by raising the real wages of the employee, raises his standard of living and makes him infinitely more valuable as a "consumer" of the nation's goods.

•

WHAT is claimed to be the most up-to-date ball-bearing plant in the world is now being operated in Wolverhampton. During the last eighteen months the company concerned, Fischer Bearings Company, Ltd., has transformed five acres of the old Sunbeam Motor Works into a highly efficient manufacturing plant.

MANIFOLDIA LTD. of WEST BROMWICH

are manufacturers of

"QUIKWAY" CONTINUOUS FORM STATIONERY

"QUIKPART" CARBON LOADED SETS and

STATIONERY FOR MACHINE ACCOUNTANCY

TO SEE IS TO KNOW · *instantly !*

Send now for folder "Why?" showing how Visible Systems keep your business at your finger-tips

How long does it take you or your executives to get VITAL BUSINESS FACTS?—Far too long if you do not use VISIBLE SYSTEMS.

VISIBLE SYSTEMS
CARTER-PARRATT

keeps "key" facts continuously before you—shows you instantly—how many orders Jones booked last month—when he last called on Smith's—where credit has reached limit—which lines are moving or not moving—every fact known instantly—at-a-glance.

Write or telephone for full particulars to—

CARTER-PARRATT LTD.
(P. J. Carter-Eve, Managing Director)
317 ABBEY HOUSE, VICTORIA STREET, LONDON, S.W.1
Telephone : ABBEY 3675/6

3904

One Machine does the work of Two

Continuous Form Billing in addition to regular typing

YOUR typewriter actually does the work of two machines when used with "Fanfold" Continuous Form Adapter, because the many time and money-saving methods of the Continuous Form Billing Machine are added to all the advantages of regular typing.

"Fanfold" Continuous Forms typed over our Attachment effect savings in Billing time, and costs, ranging from 17% to 78% without affecting the operation of the typewriter for regular correspondence and other purposes.

"Fanfold" Adapter places no strain whatever upon the typewriter carriage; because of the very simplicity of construction and operation there is nothing to get out of order.

Fanfold Ltd.
TRADE MARK

NORTH CIRCULAR ROAD, LONDON, N.W.2
Telephone: GLADstone 5477 (3 lines)

INSTANT CONTACT WITH

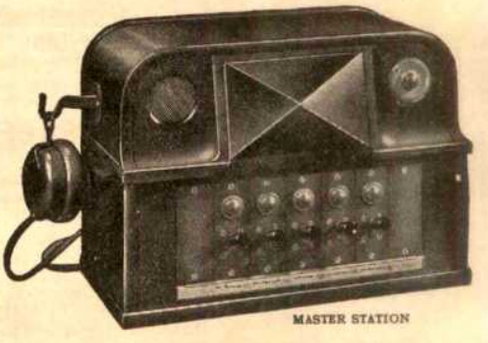
SALES MANAGER
TECHNICAL STAFF
ADVERTISING DEPT
SECRETARY
ACCOUNTANT
GENERAL OFFICE
WAREHOUSE

Make your office the nerve centre

The modern business organization is a delicate and sensitive machine—and cannot be run with ponderous out-of-date devices. Install the Ericsson Loudspeaker Telephone System and your office desk becomes the nerve centre of your business. Orders, queries, opinions, advice, pass swiftly from key-man to key-man. One man—or fifteen—you can "get them together" in a second on your Ericsson Master Station.

Here are the advantages:

1. Get through instantly to any department without dialling, calling a switchboard, holding an earpiece, or speaking into a mouthpiece.
2. Hear replies ALOUD—keeping hands free.
3. Right-of-way over other conversations.
4. Hold a conference without any executive out of his department.
5. If necessary loudspeaker can be switched off so that only you hear replies.
6. FULL SECRECY.



MASTER STATION

Can you afford to be without these unique conveniences and advantages? Why not get in touch with us? Ask for particulars of our moderate RENTAL MAINTENANCE or make an appointment for free demonstration AT YOUR ADDRESS

Ericsson Telephones Ltd., 22 Lincoln's Inn Fields, London, W.C.2
Tel.: HOLborn 6936

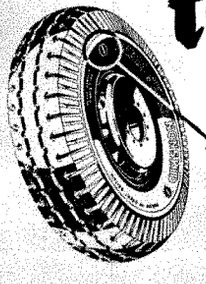
Ericsson

LOUD-SPEAKING INTER-COMMUNICATION TELEPHONES

I can take it!

The rougher the road . . .
the faster the run . . .
the tougher the job . . .
the better you can rely on me . . .

I am the new INDIA commercial vehicle tyre



1884

BUSINESS Road Test No. 3. *Continued from page 24*

camber, thus leaving ample scope for their free action in absorbing road surface inequalities.

A Few Over-Severe Tests to Start With

Before leaving the pit, however, I deemed it wise to see how the vehicle would behave on one of the stiffest gradients in the workings; so that, if necessary, we could drop enough sand before starting the road test to reduce the load to about 2½ tons.

Any misgivings I might have entertained with regard to taxing the Bedford abilities beyond reasonable limits were dispelled quickly by making a few experimental climbs up gradients of about 1 in 4, rendered more difficult by several inches of snow. On this model you have a bottom gear of 44.76 to 1, which, with a six-cylinder engine developing a maximum output of 64 b.h.p., makes easy work of any climb where the surface will give enough adhesion for the driving wheels.

After spending an entertaining time in climbing the worst gradients the pit afforded and making numerous tests of brake efficiency, I was quite satisfied with the general behaviour of the heavily laden vehicle, and set off to see how the Bedford would deal with the load we had collected in such adverse circumstances.

Comfort Ensures Better Work From the Driver

The makers of the Bedford truck attach considerable importance to making things really comfortable for the driver, as is evidenced by the design of all their cabs. The wide seat provides sufficient room for three men of normal girth, the ventilation is excellent, and a sloping rear squab supports the driver's back properly.

Another refinement in the cab construction is its flexible mounting which damps out all vibration and prevents rattles or drumming from developing. Driving against the full force of a blizzard produced no discomforts whatever, and the driver's screen-wiper worked quite well, even when all but the wiped sector of the screen became obscured by snow.

All these points are very important to the wise operator who knows that true driving comfort increases the working efficiency of each driver-truck unit in his fleet. After all, when so much is expected of drivers at both ends of their road journeys they are entitled to all the comforts a truck of good design can afford.

Personally, I found that after our exploits in the Godstone sand-pit, travel in the Bedford cab came as a very welcome relaxation, its general comforts being quite comparable with those of the average touring car.

FACTS AT A GLANCE

Vehicle Tested: Bedford Two-Ton Drop-sided lorry.

Makers: Vauxhall Motors Ltd., Luton, Beds.

Capacity: 2 tons.

Body Length: 11 ft. 6¼ in.

Wheelbase: 134 in.

Fuel Consumption: 18 m.p.g.

Pay-Load Ton Miles Per Gallon: 39·6

Maximum Gradient Climbed: 1 in 3½.

Annual Tax: £25.

Vehicle Price: £256.

The Fuel Test

That by the way, however, for there were other things to engage my attention while the test was in progress. First of all there was the matter of petrol consumption to be investigated, and, following the usual procedure for these BUSINESS tests, we connected a one-gallon test-tank with the carburettor, checked the mileage recorder reading, and proceeded at a steady 30 m.p.h. over a give-and-take main road route to obtain the required information.

At that speed, notwithstanding its overload, the Bedford engine hummed rhythmically under very light pressure on the accelerator pedal, leaving an ample reserve of power when occasion demanded its use. No effort of any kind was made to obtain abnormal mileage from the one-gallon test supply, and therefore the figure of 18 miles, shown on the trip recorder when the tank ran dry may be taken as representative for this useful model, when driven under similar conditions.

Tests Only, Not For Regular Practice!

While I am much against the common practice of habitually accelerating any truck engine violently, there is no better method of testing a power unit or, incidentally, of wearing it out if persisted in under working conditions.

Of my three usual acceleration tests I will dismiss the first, i.e., pulling away from a standing start in top gear, with the remark that the engine, clutch, and transmission withstood the abnormally severe momentary stresses to my complete satisfaction, while the vehicle moved off without so much as a shudder from the propeller shaft.

But please don't let your drivers try the experiment, the test is far too drastic for ordinary use.

The result of the second test from a standing start to 30 m.p.h. by using the gears in the correct manner produced the figure of 18 seconds, thus proving the ready response from the powerful engine, a perfectly efficient clutch, and accurately graded gear ratios. Good power at low engine speeds was revealed when the speed on top gear was increased from 10 to 30 m.p.h. in 25 seconds.

Taken all round, the results are sufficient to convince the operator that the Bedford 2-tonner can be relied upon for haulage work at very good average speeds without imposing unnecessary wear and tear or heavy fuel costs by travelling "flat out" on every possible occasion.

Road Conditions Too Dangerous For Braking Tests

On the occasion of this test I was compelled to omit the usual stopping tests on account of exceptionally treacherous road surfaces, so the usual figures must be replaced by my assurance that the Bedford braking arrangements never gave me a moment's anxiety throughout the whole course of the test.

The truth of the statement quoted at the beginning of this article, having been proved by the conditions encountered at Godstone, was emphasized to a still further extent when, at the suggestion of Mr. Fairhall, we drove the Bedford to a building site known as Dome Hill Estate in the hills on the south side of Caterham. In delivering material for constructional work in progress on the higher slopes of the estate, lorries have to negotiate a concrete road having a maximum gradient of 1 in 3½, so my test concluded with another spell of really rough going and a faultless ascent of the very formidable incline, which left no doubt whatever in my mind as to the capacity of the Bedford 2-tonner for really hard work or satisfying every condition coming within the general category of "terminal efficiency".

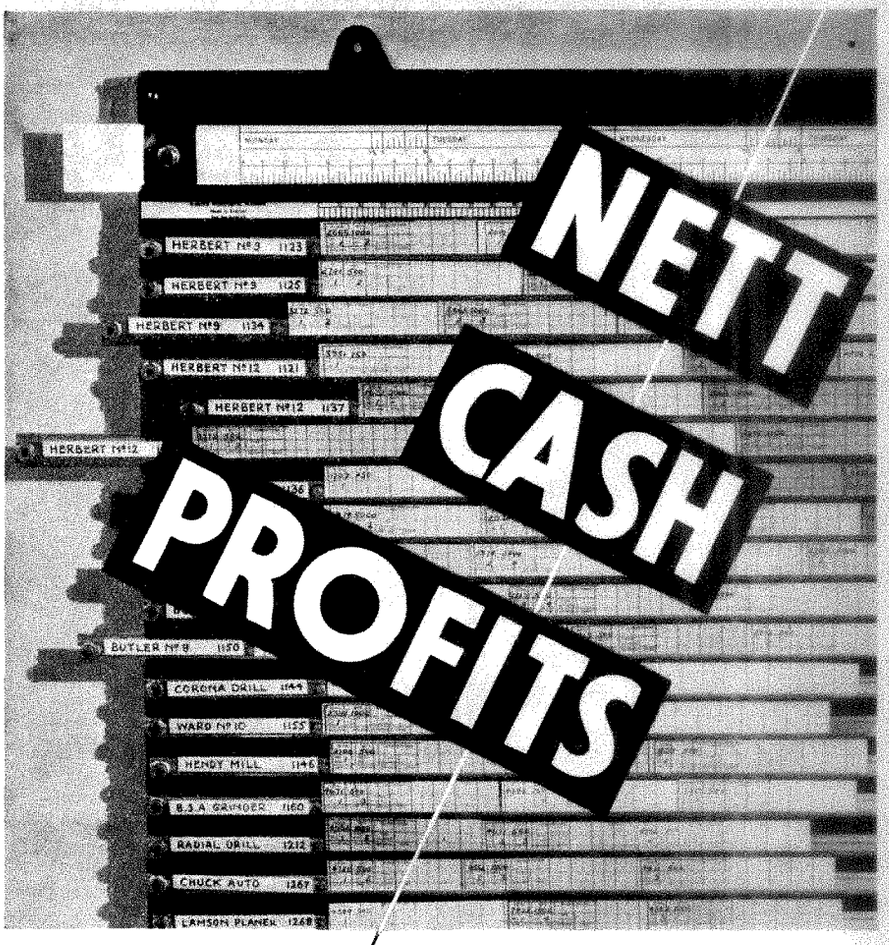
●

Mr. Average-Man How Does He Spend?

(*Continued from page* 14)

where a car is owned by the £5-a-week man there are usually no children or just one child. Sometimes there are additional juvenile earners who contribute towards their upkeep. Often, too, it will be found that the cost of car maintenance cuts into food expenditure. Food is usually the first to suffer.

The present trend is towards more



ULTIMATELY BUSINESS SUCCESS IS MEASURED BY NETT CASH PROFITS

Does it cost you too much to make ?
Is there an uncomfortable gap between gross profits and nett cash profits ?
On the manufacturing side alone, is there complete co-ordination between the various processes ? Are purchases, raw materials, and component stocks stages of a continuous and planned process or three separate unco-ordinated items ? Can you see immediately the load on the shops and the effects of overloads and underloads ? If a hold-up occurs can the real cause be located rapidly and the effect of the necessary readjustment on the plan be immediately grasped ?
Kardex Mechanical Planners and Visible Records perform the essential functions of giving rapid visual control of all stages in the process of manufacture. But in addition they enable you to plan simply and efficiently and to check the performance against the plan. Write for Planner Bulletin No. B.075.

KARDEX
1, LEADENHALL ST., LONDON, E.C.3.
REPRESENTED IN THE PRINCIPAL CITIES THROUGHOUT GREAT BRITAIN

USE THIS COUPON

If you desire information from the Editor or from Advertisers attach this coupon, which should be signed by a responsible executive, to your business letterhead and post to:—

BUSINESS Service Department, Whitefriars House, Tallis Street, E.C.4.

Please send, without obligation, more information in connection with advertisement (or advertisements) in the March, 1938, issue of BUSINESS numbered below.

Numbers (see Index, page 5).....
Firm.....
Address.....
.....

VENUS PENCILS

VENUS PENCILS are incomparably smooth and long lasting, their standard of quality never varies.

MADE IN ENGLAND
KNOWN THROUGHOUT THE WORLD

If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.

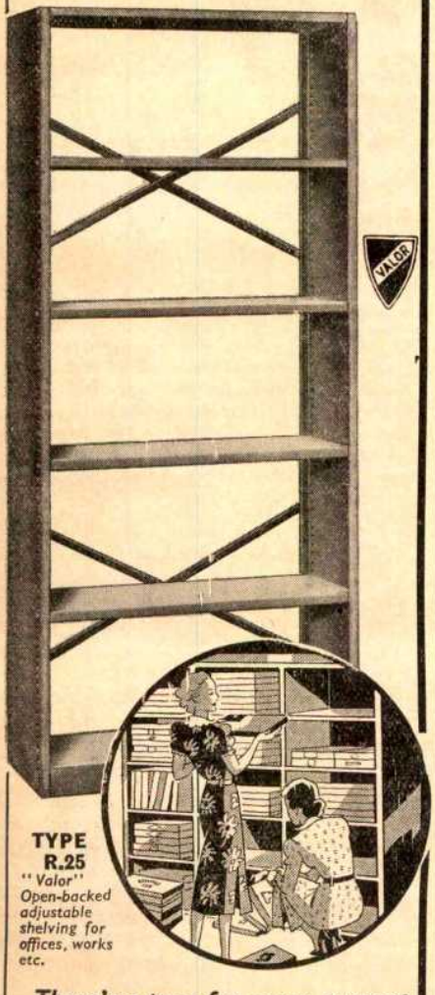
VENUS PENCIL CO. Ltd., LONDON, E.8

From 6b softest, to 9h, hardest

Keep your stock in order, clean and handy with

VALOR
STEEL SHELVING

- *Extra Strong and Durable*
- *Light or Heavy*
- *Adjustable Shelves*
- *Open or closed backs*
- *Angle, Sheet Metal or Tee Iron Types*
- *In Units of any dimensions*
- *Olive Green Enamel Finish*



TYPE R.25
"Valor" Open-backed adjustable shelving for offices, works etc.

There's a type for every purpose

Write to-day for a complete illustrated list, No. 29/V105.
We can quote to your own requirements for Lockers, Shelving, Bins, Sheet metalwork, etc.

THE VALOR CO. LTD.
BROMFORD, ERDINGTON, BIRMINGHAM
London Address: 120 Victoria Street, S.W.1

R.2

and more comforts, even at the cost of mortgaging the distant future. And there are many more comforts and luxuries upon which to spend money to-day.

The distributions given previously relate to the "fiver-a-week" class. Those within a lower or a higher group have varying allocations. In the former more is spent on food, less on rent and clothing. In the latter more is spent on social services, clothing, and rent, with a tendency to spend less on food. These notes are, however, given with reservations, for they are outside the scope of this analysis.

●

Schick Shaver Launched in British Market

(*Continued from page* 18)

These media were selected for two reasons: (*a*) to reach the market of men; (*b*) to get at a class of customer that could afford to buy the Schick. It will be noticed, too, that concentration was chiefly on London and the Home Counties. The higher-class publications were used most, although, of course, our small appropriation did not give us great scope in heavy use of any one medium.

A point which might be raised is this: why did we start advertising in May? We had built a distribution that would carry economically the expense of advertising, deliveries of goods were coming through to meet anticipated demand, our service department had been organized and our sales staff were ready for expansion.

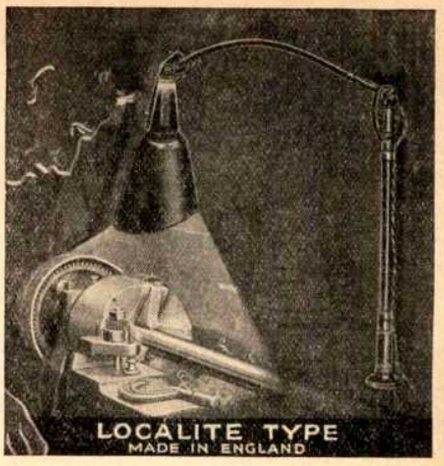
As I mentioned before, all advertisements had an invitation to write for an explanatory brochure. These inquiries were passed on to dealers. Incidentally, I might add that most replies per £ spent came from the *Humorist*, but there was not a great difference between the lowest and highest cost per reply from any of the media.

Sales Volume Was Increased Ten Times

Our sales graph tells the story of the advertising. When the campaign was launched we were selling 650 Schicks a month, but within four weeks sales jumped to 1,465 a month. From that time the climb was steady. By the end of the year it had exceeded 6,260 a month. Now, as compared with January, 1937, sales have increased by almost 1,000 per cent!

I am not suggesting by these figures that the advertising is solely responsible for this big rise. It is not. It has been a valuable ally co-operating with our carefully laid plans and policies. Without the intensive groundwork that I have outlined such results would not have been possible. The product, by admirably doing the job for which it was designed, has been the primary factor in our success. The substantial and fixed rate of discount we allow, the price

(*Continued on page* 46)



LOCALISED LIGHT

Increases Efficiency, Cuts Costs

By concentrating light over the job actually in hand, efficient work is assured because light is thrown only where it is needed. At the same time current consumption is saved, because maximum kilowatt demand is lower. Friction joints make the "Localite" instantly adjustable to any angle.

Write for free list for other models.
"Localite" fitted with ample flex, adaptor, switch lampholder, vitreous enamelled steel shade and socket.

Workshop or Office Model
20/- each complete
Ready for use except for lamp

WALTER GRAFTON & SON Ltd.
DEPT. 13b. LONDON, S.E.9
Phone: Eltham 2121 (5 lines)

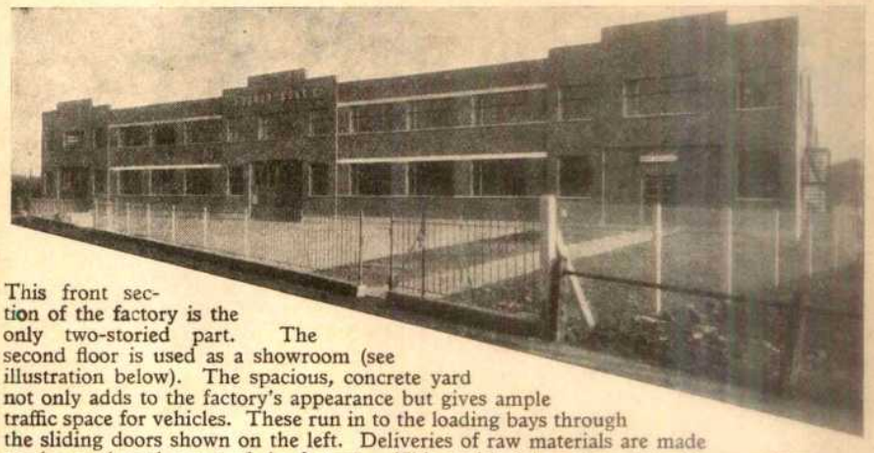
Are Your Sales Problems Unusually Difficult?

To increase the sales of an outstandingly good product is not always easy. To increase the sales of one offering few advantages over competitive products is more difficult still. But it can be done—at reasonable cost—as our clients have proved.

If you would like experienced advice on the best method of increasing your sales, tell us your problems and we will put our considered recommendations before you.

J. W. RUDDOCK & SONS
Sales Consultants
LINCOLN
and at 3 Old Jewry, London, E.C.2

'Hand-Made' Quality is Aided by Modern Factory, Planning and Methods



This front section of the factory is the only two-storied part. The second floor is used as a showroom (see illustration below). The spacious, concrete yard not only adds to the factory's appearance but gives ample traffic space for vehicles. These run in to the loading bays through the sliding doors shown on the left. Deliveries of raw materials are made to the yard at the rear of the factory. This avoids delays through traffic congestion

From an Interview with

LESLIE BERRY

Managing Director, J. Berry & Sons, Ltd.

THE decision to build our new factory was governed by three main considerations: (1) the need for increased production; (2) the possibilities of lowering manufacturing costs; (3) the opportunities to make new lines. The single-floor, 40,000-sq.-ft. factory we have built has enabled us to achieve these three aims.

The business of this company is mainly the reproduction of "period" furniture. This has, naturally, been a guiding factor in planning the new works. Mass-production technique, for example, is out of the question. The goods are largely hand-made and of a quality superior to those on sale in the general market. They sell to people who want furniture "a bit different" and are willing to pay higher prices.

Nevertheless, we needed in our new factory all the modern aids to the most efficient production, but applied in such a way as to improve and facilitate specialized craftsmanship. In other words, to raise still higher the standard of "hand" work and not in any way to reduce the processes to mass-production level.

We certainly had to introduce certain types of new machinery. But only where it would do work that was definitely superior in quality to hand work did we introduce this mechanical plant.

This policy is reflected in the layout of the factory. Although there is planned grouping of processes, there is not the usual type of strict regimentation. We deliberately avoided this, purely on account of its psychological effect on the staff. All our workpeople are highly skilled craftsmen. To regiment these types of "individual" workers into straight lines and squads on the mass-production plan would be to destroy altogether the pride they have in their "aloofness"—if one can call it that.

So we have "orderly disorder", planned to give a system of modern forward working, but devoid of mechanized routine.

Work moves from the raw material stage to the finished product. The groupings of craftsmen are arranged to handle work progressively. Storage of wood is at the rear of the factory. The first step is to the mill, thence the progress is through the various departments towards the front of the building. The last of the line of work before stacking for transport is the polishing and finishing department. At the front end of the works are two loading bays. Lorries run in here to collect the goods.

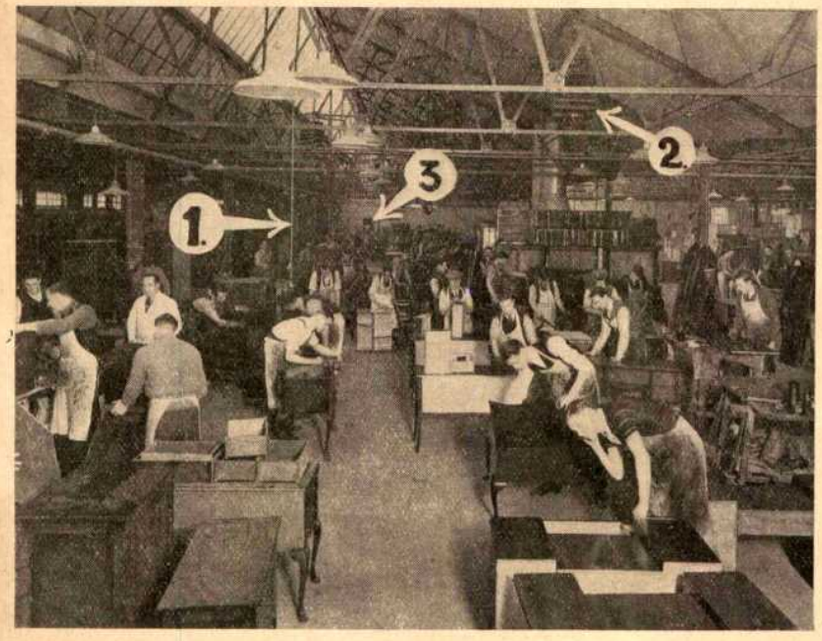
All Parts of Building Are Fire-Resisting

The factory building, constructed of steel and brick and having a granolithic floor, is fire-resisting. It is insulated and has a sprinkler system throughout. Granolithic flooring is used for its special fire-resisting qualities as well as its durability.

Two of the most unusual features about the new works are (*a*) the lighting and (*b*) the heating system. The

The showroom is used for display of all lines in production. Later, it is planned to separate the space into sections to arrange individual period settings. Such display organization s necessary as retailers frequently send their customers along to the factory to inspect the whole range of available goods. This 10,000 sq. ft. showroom becomes, therefore, the chief "display centre" for all dealers on the firm's books

former is arranged with individually controlled lamps. Each workman can switch on or off at will the light over his bench or working area. Thus, one or a score or a hundred lights can be in use at a time. The number makes no difference, but the system does make a difference to the rate and quality of production and to the size of the lighting bill. More point is added to this method by the fact that natural lighting of the works is very good. In summer, artificial lighting is rarely needed at any time of day in any part of the factory. Even in winter lights are not switched on most of the working time. When they are, it is one at a time as and when needed by the craftsmen.



The arrows show (1) the cord switch by which workers can operate, independent of all others, the light illuminating their bench or working area; (2) the arrangement of the "fanned hot air" heating system, located on the steel cross members; (3) the position of the canteen separate from, yet in, the factory, a condition which leads to time saved for the firm and the staff. The illustration also shows the "individualized" set-up of production lines. This deliberate evasion of regimentation helps foster the spirit of craftsmanship among the workers

The heating system has three specific points in its favour: (1) it takes up no working space; (2) fan distribution of warm air from above helps to keep air movement correct and eliminates "pools" of coldness or heat; (3) being linked to the works hot water system, operation is economical.

The hot water radiators are placed on the steel framework overhead. Air is drawn over the pipes by fans. Thus warmed, it is distributed evenly over the work-benches. Actually, this method is used because other systems tend to create a dry heat which is harmful to wood. Now we find it is not only more economical but functions more efficiently.

The policy of restricted use of machinery brings its own special problems. Some processes that could be done by mechanical means are not so treated because the volume of output would outpace production in other departments. Yet some machines can be kept idle part of the day and still be profitable. The triple drum sander (for "sandpapering" processes) is an example. Other machines, such as that which does the straight veneer work, are kept fully employed to produce at a rate to meet factory demand. In such cases as this big savings are effected. Veneering by machine, for instance, takes 8 to 10 minutes as compared with half an hour or more by hand. Then, to match this speed, an automatic glue mixer and an automatic glue spreader for veneer work is used.

It is by methods such as these that the level of production is controlled. With all machines now used there is a margin of "slack" which can be taken up at peak output times or called into use as expansion takes place. Incidentally, under this scheme of planning and through the favourable conditions of work for the craftsmen, the output per person employed has risen by more than 10 per cent.

Staff Welfare Is Good—And Pays

Care for the working comfort of the staff not only results in goodwill and co-operation between workers and management, but it is reflected in quantity and quality of output. Individual lighting is one example. Ample working space is another. Adequate heating a third. There is, too, the presence of a maintenance engineer who keeps machine tools sharpened and the machines in good running order. He sharpens the men's own tools if they wish, a little service which is sometimes appreciated.

The canteen is another example of making working conditions pleasant. It is located in a partitioned section of the factory. The men have no distance to go for hot food, which is good and cheaper than that obtainable outside. And linked to this is the 15-minute break allowed in the morning and the 30-minute tea interval given in the afternoon. These breaks are not only beneficial because they give a needed pause; they help to keep in the men's minds that they are looked upon as more than factory workers. They are craftsmen whose skilled creative work is important to the firm. Just a little point of policy, this, but worth while.

In addition to the 40,000 sq. ft. of factory space there is a 10,000-sq.-ft. showroom. This is located on the only part of the building above ground level, the front section of the factory.

Our Showroom Sells To Dealers' Customers

The showroom exists for a special reason. Many customers—retailers—come to the works to inspect new lines. They need, therefore, to see them on display. But more important still is the fact that many dealers send along their customers to inspect the goods. It is vital, as you can appreciate, that these people should see under favourable conditions the furniture they intend to buy. And there is scope in a 10,000-sq.-ft. showroom to display the goods to advantage.

●

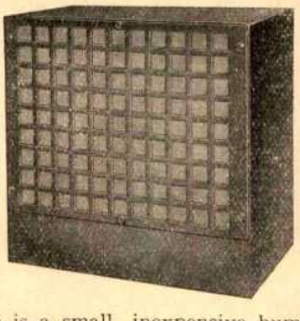
New, Inexpensive Air Conditioner

UNDER the new Factory Act working temperatures will have to be still more carefully considered by employers.

But temperature should never be considered apart from humidity.

Ordinary heating appliances, while raising temperatures to the required levels, necessarily *dry* the air.

Such air is definitely not the best for breathing. Furthermore, it is actually harmful to many manufacturing processes and materials.

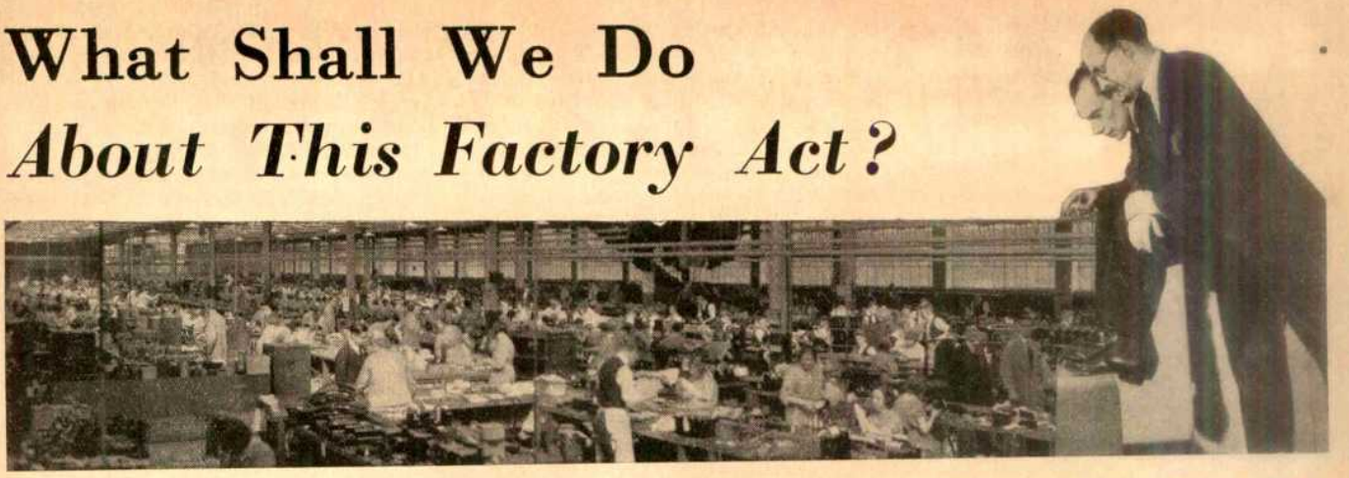


Here is a small, inexpensive humidifier which automatically *conditions* the air in office or factory to precisely the right degree of humidity. You simply attach it to the electric main. Current consumption is negligible.

It also cleans the air of smuts, dust, etc., and, combined with a small ozonizer, it acts as a deodorizer.

The small unit, measuring 12 in. by 12 in. by 11 in., is sufficient for a room up to 3,000 cu. ft. capacity and costs but £3 10s. Made by Ozonair, Ltd., St. Leonard Street, London, S.W.1.

What Shall We Do *About This Factory Act?*



By H. SAMUELS

Author of "Law Relating to Industry", "Law Relating to Shops", "Factories Act 1937", Etc.

MANUFACTURERS all over the country are busy asking themselves how the new Factories Act, which comes into general operation in July, will affect their own businesses. They want to know if their overheads will be increased or lessened, whether in their own case the new provisions as to hours, etc., will involve a complete reorganization.

The time to face these and similar questions is *now*, and in these articles I shall endeavour to supply such answers as I think will be of assistance.

Lecturing in the past six months on the new Act to audiences of firms' executives varying in numbers from 30 to 500, and in all parts of the country, has afforded me a fairly clear view of the practical difficulties which firms have experienced in seeing how to apply the new provisions to their own factories.

That 400 Cu. Feet Per Person

The new minimum standard of cubic space to be given in every workroom is 400 cubic feet per person (as against the previous minimum of 250 cubic feet). But your factory may not come under this new regulation for some time and for the following reason:

Any workroom so used on 30th July, 1937 (the date of passing of the Act) will still remain on the 250 cubic feet minimum until 30th July, 1942 (unless the factory inspector thinks that mechanical ventilation should be provided there and you refuse to comply, or unless the workroom has had a change of occupier since that date).

Then, from 1942 to 30th July, 1947, that workroom will still remain on the lower standard if mechanical ventilation is provided.

From 1947, 400 cubic feet will be the general standard for *all* workrooms.

It is useless to Try Raising Ceilings

An important point to remember is that if you try to provide increased space by raising the ceilings, this will in many cases be useless. The rule is that no account is to be taken of any space over a height of 14 feet.

If a room has a gallery, the room and the gallery are treated as entirely separate units.

In calculating space on these lines the Act makes no mention of the machinery in a workroom. It seems absurd to suggest that workpeople have the same amount of air space in a room crammed full with machinery as in another room. The official practice is, I believe, to take account only of an abnormal or excessive amount of machinery, but any reader who desires confirmation of this, or of any other reference to official practice which I may make, had better ask his District Inspector or, failing him, the Factory Department of the Home Office for himself. He can be sure of a courteous reply.

Another matter which must on no account be overlooked is that in every workroom a notice must be posted as to the number of persons who may be employed there.

Whether one notice should be considered sufficient in one of those enormous manufacturing shops which cover almost the entire length or breadth of the factory is questionable, but the Act does not seem to require more.

These provisions do not affect offices in factories. The health conditions of office workers, so far as they are safeguarded at all, are supervised by local authorities under the Public Health Acts, and no similarly precise standards as to space are laid down.

To assist readers to understand how the new Factory Act affects their businesses we have asked Mr. Samuels to contribute six special articles explaining, in straightforward language, the main points of the Act.

✦

On this page he deals with Space Requirements, Temperature and Lighting.

✦

In next month's issue he will explain the new provisions for Accident Prevention; Machinery Guards; Conditions of Floors, Stairways, etc.; Falling Objects; Dangerous Conditions such as gas, electric shock, explosion, etc.

A Minimum Temperature Must be Maintained

The new provision as to heating is that in sedentary work not involving serious physical effort a minimum temperature of 60° F. must be maintained after the first hour, and a thermometer must be kept in that workroom.

It will be noted that a *maximum* temperature is not laid down. That will doubtless be done by the Home Secretary, to whom the Act gives power to lay down standards of reasonable temperature for all the different classes of factories (from foundries to refrigerating plants), as well as power to veto harmful methods of heating.

The enforcement of the heating provisions is a matter which will now for the first time come within the province of the local sanitary authority so far as concerns factories which do not use mechanical power. Hitherto the factory inspector supervised this.

Another new requirement is that adequate ventilation must be secured by the circulation of fresh air in every workroom.

Important Lighting Regulations

As the law stands now, factory employees, generally speaking, might work in Cimmerian darkness. From July you must properly light *every part of your works in which people work or pass.*

If there is a spot outside the main building, but within your outer factory wall, in which you may occasionally set anyone to work, that spot must be lit at any rate when that work is proceeding.

If your workers use other exits than the main exit on leaving at night, those also must be properly lit.

The Home Secretary may tell you what strength of lighting you must maintain, but he may not dictate of what kind it is to be (e.g., that it should be gas or electricity).

Nor is there any reason why in places where work is not regularly done a portable lamp should not suffice as long as it gives sufficient light.

You have further to see that windows and skylights are kept clean on both sides. But you will not be forbidden to whitewash or shade them against the heat or glare.

Factory Location — Would It PAY You To Move?

There are 'lifers' on most boards—directors who want to 'stay put'. A traditional location is good enough for them. They don't think buildings, for example, become obsolete. Yet in recent years the factory location problem has changed completely, making industry mobile and heavy capital outlay unnecessary. Choice of sites, once restricted, is now country-wide. So don't let 'lifers' hold you back!

By
C. E. DAY

NOW that the new Factory Act is coming into force, the whole question of equipment, machinery and buildings will be a prominent feature of boardroom discussions. The first two usually come under the review of directors each year as a matter of policy, but the question of buildings is often left until circumstances thrust it before the board.

Such circumstances exist to-day. The Act may make necessary extensive alterations to factory premises; the cost of meeting standards of safety, health, welfare, efficiency, and so on may be heavy. This being so, directors may well find it is worth while building or taking over a new factory.

The points that influence such a decision are many. In a country-wide survey conducted by BUSINESS, over 600 industrialists put in 1, 2, 3 order the reasons why they chose new locations. Here is the list of those reasons, arranged in the order of influence: (1) nearness to market; (2) possibility of renting buildings; (3) cheap and accessible transport; (4) nearness to raw materials; (5) abundance of skilled labour; (6) low rent and/or rates; (7) ability to buy land in small portions for development; (8) suitability of climatic conditions; (9) presence of open spaces around factory; (10) adequate housing and pleasant living conditions for workers.

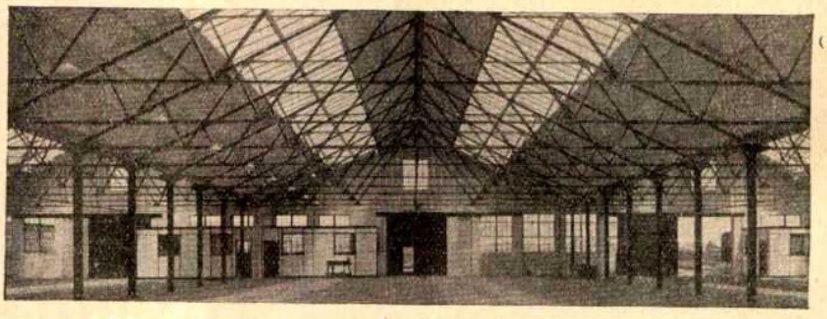
The importance of this problem, however, goes deeper than these ten good reasons why you might find it worth while to move. Just as individuals can stay too long in one place, so can firms. In saying this I do not advocate rapid change merely for the sake of change. The idea is that boards should shake themselves out of the groove of taking for granted that the existing buildings and location of their businesses need no periodic examination.

Too often it never occurs to some executives that the firm should check up the value of existing buildings and site against the advantages obtainable in a location elsewhere. There are hundreds of concerns, for example, that started business in a two-, three-, or four-storied building and have stayed there. Because the firm continues to make a profit and to grow it is no argument for continued use of obsolete premises. It is most likely that, operating in a modern, single-floor factory, not only would costs go down, but production would increase without addition to staff or machinery. Certainly the margin of profit would go up.

Premises that are the least out-of-date must be a factor of inefficiency. Old-fashioned construction does not line up with new-fashioned ideas for factory layout. Buildings which are hard to keep clean cost more than mere cleaning charges; they retard production, have ill-effects on the health of the staff, and help to create a spirit of inefficiency. Many premises of this kind are difficult to light properly or ventilate correctly. Insurance premiums are usually heavy. Frequently, too, such factories are set in crowded areas of towns and cities and are, therefore, in an unhealthy spot.

Perhaps I have cited circumstances which are not general, but only true in part. Even so, this query arises: Will it pay us to move?

The advantages are overwhelmingly on the side of new premises. If you build

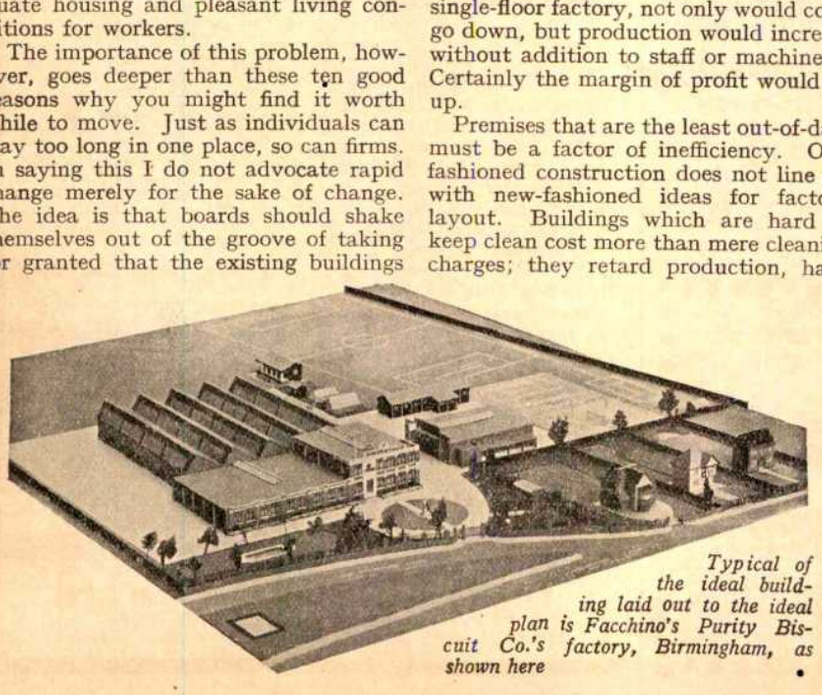


a factory to your own specifications, every detail of design and layout can be made to fit your precise requirements. Fireproof materials will bring down insurance costs. The use of steel, concrete, and other modern, enduring materials means elimination of 90 per cent of maintenance charges. Lighting, heating, ventilation, safety measures, and other important matters can be put in as an integral part of the building, not superimposed on a structure not designed to take them.

Some effects of going to a new location cannot be immediately measured in cash savings, although these do ultimately result. The change can have a "toning up" effect. Interest in the new surroundings, fresh interest in work and more consideration of the firm, its aims and objects, often take place in the staff. This is particularly true where the move from a "make-shift" type of building to a really up-to-date factory occurs.

An instance that comes to mind is that of a small manufacturing firm, employing 150 men, that moved from a crowded part of London's East End to a "garden site" on the outskirts of the metropolis. The managing director told me that production has risen by 12.3 per cent.

"This rise," he related, "is due to efficient layout of plant in a building constructed to meet our particular needs plus the 'pepping up' effect on the staff. We have not taken on any more staff, yet production is still climbing as the organization settles down to smooth running. I do not suggest the interest of the workers has a major effect on the results, but without doubt it has some. The men have shown their interest in a practical way. They have made all sorts



Typical of the ideal building laid out to the ideal plan is Facchino's Purity Biscuit Co.'s factory, Birmingham, as shown here

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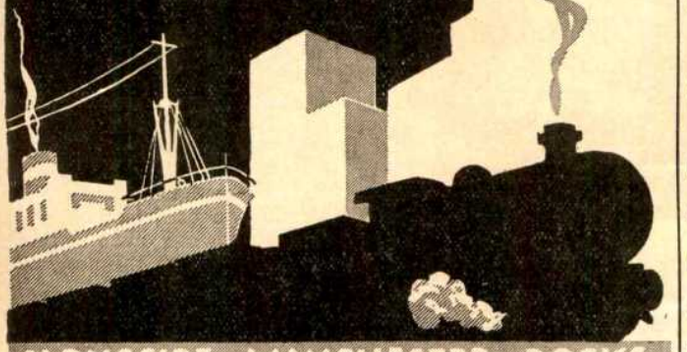

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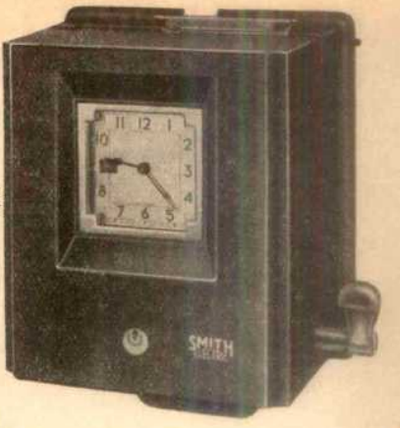

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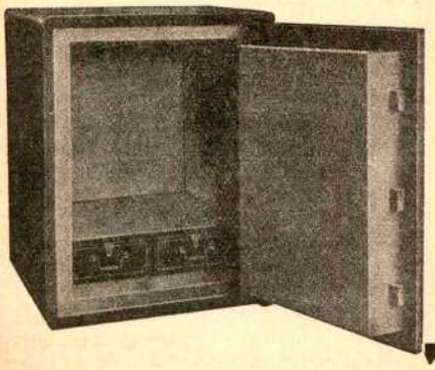

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of suggestions for smoothing out snags in the works."

That is the spirit a change of location can inculcate. It is all the more noticeable where firms move to factories situated in open spaces, where canteens, rest-rooms, gardens, and sports grounds are on the spot. During meal breaks workers can get completely away from the strain of factory rush and bustle. The result is that nerve strain is lessened, eye- and head-aches are reduced and the production curve is better maintained during the "fatigue hours" prior to midday and late afternoon.

Investigation of the various factors influencing choice of sites showed that "possibility of renting buildings" played an important part. It means that most firms need to rent rather than to erect a factory.

Factories At £1 a Week Now Available

There is no need to-day for a board to commit itself to any crippling expenditure. Nor need directors be content with renting an old building in order to keep down costs. Most of the "garden estates", such as Welwyn, Slough, Wythenshawe, Letchworth, King's Norton, Speke, etc., and the Government-subsidized estates at Team Valley, North Hillingdon, and Treforest, now have sectional factories of 10,000 sq. ft. floor space for rent at £1 a week or thereabouts. These little factories are equipped with water, light, heat, lavatories, wash-rooms, clothes closets, and, in some cases, steam power. They are laid out and ventilated in keeping with modern standards. They are, in short, planned as are big factories, but built on miniature scale.

Similarly, big factories at proportionately low rentals are available to-day in all factory centres in this country. Where there is not a building to meet your special needs, arrangements can be made usually to have one built for rental. Thus, one of the great drawbacks to small and big firm alike has been removed. A new approach to factory location is possible, even advisable. A change does not necessarily mean big capital outlay nor long-term commitments.

In the past two or three years I have talked with managing directors who have transferred their works from London to the north of England and vice versa. In every instance the change has been beneficial along the lines I have sketched. It is interesting, too, that in several cases the change has been primarily to get near a chief market. In pre-War days it was almost imperative to get near the supply of raw materials. Modern transport has lent wheels to industry. To a fanciful mind, the modern industrialist has the makings of a nomad; he can follow his markets.

The full significance of this change in conditions has not yet reached every board-room. When it does, directors will assess the value of buildings in a way similar to their present method of assessing the value of plant, systems, personnel and the rest. When a site becomes obsolete, it must go. That is a 1938 policy.

Even the BEST Lighting Can't Compensate for *Defective Eyesight*

By

'BUSINESS' Lighting Consultant

ALTHOUGH to-day management is becoming more and more aware of the very great influence which properly planned lighting can have in advancing the quality and output of work, there is still far too little appreciation of the fact that lighting and the *state of workers' eyesight* are inseparable factors.

I want to state quite frankly that business men who make cash investments in improved lighting are simply wasting much of the money if the eyesight of a proportion of their workers cannot benefit from the improvements.

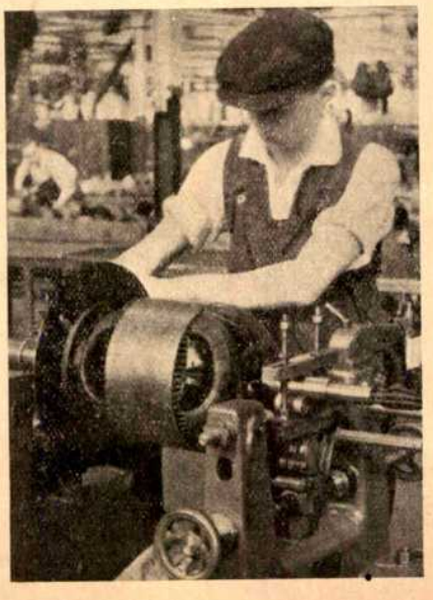
Last month I was with the director of a manufacturing firm and was making a survey at his request of the lighting in one of his main shops.

His existing lighting was up to normal standard and output was normal, but this director was interested in having scientifically planned lighting so that work could be improved as a natural consequence and without extra effort on the part of his staff.

Test Revealed Staff of One-Eyed Workers

In walking round the benches, however, I had noticed several of the girls holding their heads in ways that indicated defective eyesight. Some of the girls were squinting slightly, others were holding their heads too close or too far away from their work.

I pointed this out to the director and suggested that I took several of the girls at random and tested their sight. He was not at all keen on this idea: he thought it might upset the girls. But on my pointing out that the results of lighting are entirely dependent on the responses to it made by the workers' eyes, he agreed.



There were about a hundred girls in the shop and I tested the eyesight of eighteen of them. Six of this number had sight so defective that they had practically no binocular vision at all, each was working virtually with only one eye. Six out of eighteen were one-eyed workers! Only three of the remainder had what the test classified as first-class sight.

I told this employer quite frankly that no money spent on improved lighting would help these operatives turn out more or better work.

He was amazed at the eyesight tests. If such a proportion of defectives was found in eighteen persons taken at random, he said, what about the hundred in the whole shop?

Yes, what about them? And from my long experience I can state definitely that the eyesight standard found in this firm is not at all outstandingly bad.

I think I should mention here that the eyesight tests I make are not elaborate. There is nothing complicated that might in any way awe the workpeople. I use a specially devised instrument called a steroset; it is something like one of those old stereoscopes, only much smaller. The person to be tested simply looks into the "box" and reports the position of certain dots.

This test does not diagnose in the way the oculist's instruments do, it simply indicates defectiveness.

One of the greatest difficulties I find in going round business organizations of all kinds is that employees *will never admit that they cannot see properly.* They will rarely, if ever, admit even that the lighting is insufficient. They seem to fear that this will raise, with the management, the question of their eyesight, and that if their eyes are found defective they will be dismissed.

Employer's Job To Study Eyesight Factor

I have observed an operative quite obviously labouring along with one eye practically blind and the other very far below par. "Does this lighting suit you, can you see to work all right?" I asked him. "Oh, yes, sir, I can see perfectly," he at once replied with the greatest confidence.

I consider that it would be of enormous benefit to industry generally if employers would look more closely into this matter of eyesight. A great deal of very good work is already being done in

the direction of employee welfare—canteens, rest pauses, recreation, medical aid, and so on—but eyesight, because defects are so seldom really obvious, does not seem to receive a like amount of attention.

It would be a good plan if definite campaigns were undertaken by firms to rid employees of their fear of being discovered with defective vision and to encourage them to come forward voluntarily—or at least to submit readily—to eyesight tests.

Whether firms can then make any contributory arrangements towards getting visionary defects rectified is, of course, a matter for each to decide.

The point is, workers with defective vision can never reach the standard of work of which they are potentially capable. Employers are therefore simply suffering a needless drag on their overheads to allow this state of things to go on. And yet it is such an easy and comparatively inexpensive thing to-day to have these visionary defects put right.

I do not intend, in this short article, to go into any explanations of how scientifically planned lighting can increase both the volume and the quality of work. Most manufacturers to-day realize that it does. But if I have been able to start a train of thought about this factor of *eyesight* in relation to lighting, I shall be happy in feeling that some progress has indeed been made.

I do not, of course, want it to be imagined for a moment that it is useless to consider lighting improvements unless and until every worker's eyesight has been made first-class. The details of lighting in the average firm are such that very great improvements indeed could immediately be made quite irrespective of the state of the operatives' vision.

But what I do want to emphasize is that the *best* cannot be got out of *any* lighting system unless eyesight is up to a good standard of efficiency.

And this truth is all the more important when firms contemplate paying good money for the *best* lighting systems which enable output and quality of work to be raised to the absolute maximum.

That is why, when advising business men on lighting matters, I always find it necessary to bring in this vitally important factor of workers' vision.

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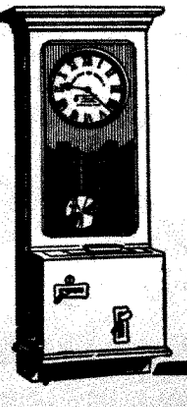

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Schick Shaver Launched in British Market

(Continued from page 38)

standard and the way we have got behind the dealer to help him merchandise the product properly are other major points.

We have, of course, provided the usual dealer help material in the shape of showcards, brochures, dummy boxes, and other display pieces. An interesting example of a theoretically bad display piece that produced excellent results is our main showcard (see illustration). According to standards of good layout and design, this card is spotty, confusing to the eye, possibly too gaudy for our class of trade (it is printed in light blue, red, and black). Yet we have had more success with this card than with any other to date. Why? Because it tells 90 per cent of the story, the essential facts about the shaver. It catches the eye in a shop window; a demonstration follows, and frequently a sale.

Campaign to Speed-Up Retail Outlets

That about sums up our story so far. It is on these facts that we have budgeted for "double-the-sales" this year. But how are we to achieve the £144,000 retail turnover? The answer is many-sided. We shall, of course, stick to our 1937 policies. If anything, we're planning to be more rigid on that point of fixed price. The 4,000 retail accounts now open are to be combed. Any that are at all questionable in status will be eliminated. The non-profitable one-timers will be dropped. We shall get down to a list of 100 per cent good retailers who will co-operate in full with us in selling Schick Shavers as they should be sold.

This purge will eliminate waste of time and effort on our part. The training of dealers and their assistants will be intensified. The service angle will play an important part. We have in mind plans for opening service departments in most of the big cities in the country. Salesmen will have smaller territories to cover and will, therefore, be able to give more time to demonstrations and pure service calls on retailers.

These expansions will be backed by increased advertising. At least double the appropriation will be spent in newspapers and magazines. Furthermore, we are working out a plan of part payment of local advertising for retailers. Thus, with more than twice as much national and local advertising, we can step up sales to meet—and probably beat—our plans.

Another part of 1938's scheme is to sell to women, a vast, untapped market. In this the present successful policies and plans will be used. The details of the attack on the market have not yet been worked out.

There is also this important factor to be considered: every satisfied Schick user influences the sale of three more shavers. With over 25,000 on the market, we thus have these satisfied users as a vital advertising force at work for us. One of the reasons why we take so much trouble in teaching retailers and customers to use the shaver correctly is to get this "personal testimonial" angle. It helps our sales force tremendously.

As a concluding point to justify our estimate of this year's sales there is our experience last November and December. Orders were pouring in on us so fast that we had to withdraw our travellers to help the office cope with the business. We cut down our advertising to reduce business to proportions over which we could keep control. We have now built up our internal organization so that we can handle to schedule all the business which our bigger advertising and marketing plans will bring in. And, I might add, we are prepared to handle *more* than double our present business.

●

Plugging Those Profit Leaks

(Continued from page 8)

tion of their efforts and a spirit of co-operation between them.

The manufacturing committee in our firm provides a good example of what I mean. It consists of executives at head office and works. We discuss what is happening in the factory, especially those things which are of interest to other departments. Minutes of the meeting are recorded and copies are sent out to all executives. They are thus kept informed and interested on factory work, which leads to better understanding and co-operation all round.

One of The Most Tricky Problems

One of the tricky points in management is to get this co-operation between departments. Often there is resentment on the part of executives that "their business" should be "pried into". This can only be overcome by constructively putting the right idea in the minds of those concerned, showing them that their department is not being "checked up", but that its work is of real interest to all and that a knowledge of the principles of that work is helpful to everyone.

That is the spirit of our works committee and the reason for its effective functioning.

At the present time we are continuing to form "preventive" policies and plans for future changes in trading conditions, though up till now we have tackled only the key departments to the existing conditions—production and purchasing. The results, however, are sufficient to show that long-range planning pays.

Long-range planning does not, of course, absolve management from the need of a strict supervision of day-to-day routine. The two policies should be harmoniously interlinked. When this is done there will be little chance of insidious extravagance jeopardizing the full quota of profits.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

MARCH, 1938

"I should like to place on record my appreciation of the Masseeley Advertising Unit as a means of stimulating traffic, of increasing the number of individual transactions, and, not least, of building up the value of the average sale."

says Mr. M. B. Roome, Managing Director of ROOMES, the well-known Essex Department Store, in a letter dated February 4, 1938

Mr. Roome adds: "Giving us complete control of our advertising at the point of sale, and operating with such complete flexibility, and at such a low cost, its speed, colour-possibilities, and wide field of effective materials, make it an important factor in a rapidly expanding business—to say nothing of the admirable results it invariably gives."

Whether you are selling direct to the consumer, or are creating your profits out of the sales made by your retail stockists, you cannot afford to ignore the outstanding merits of the Masseeley Unit as a means of obtaining more customers and larger orders.

Do not risk a snap-judgment on a matter which means so much to your net profits. Arrange for a full demonstration, on your own premises, working at your own day-to-day Sales promotional requirements.

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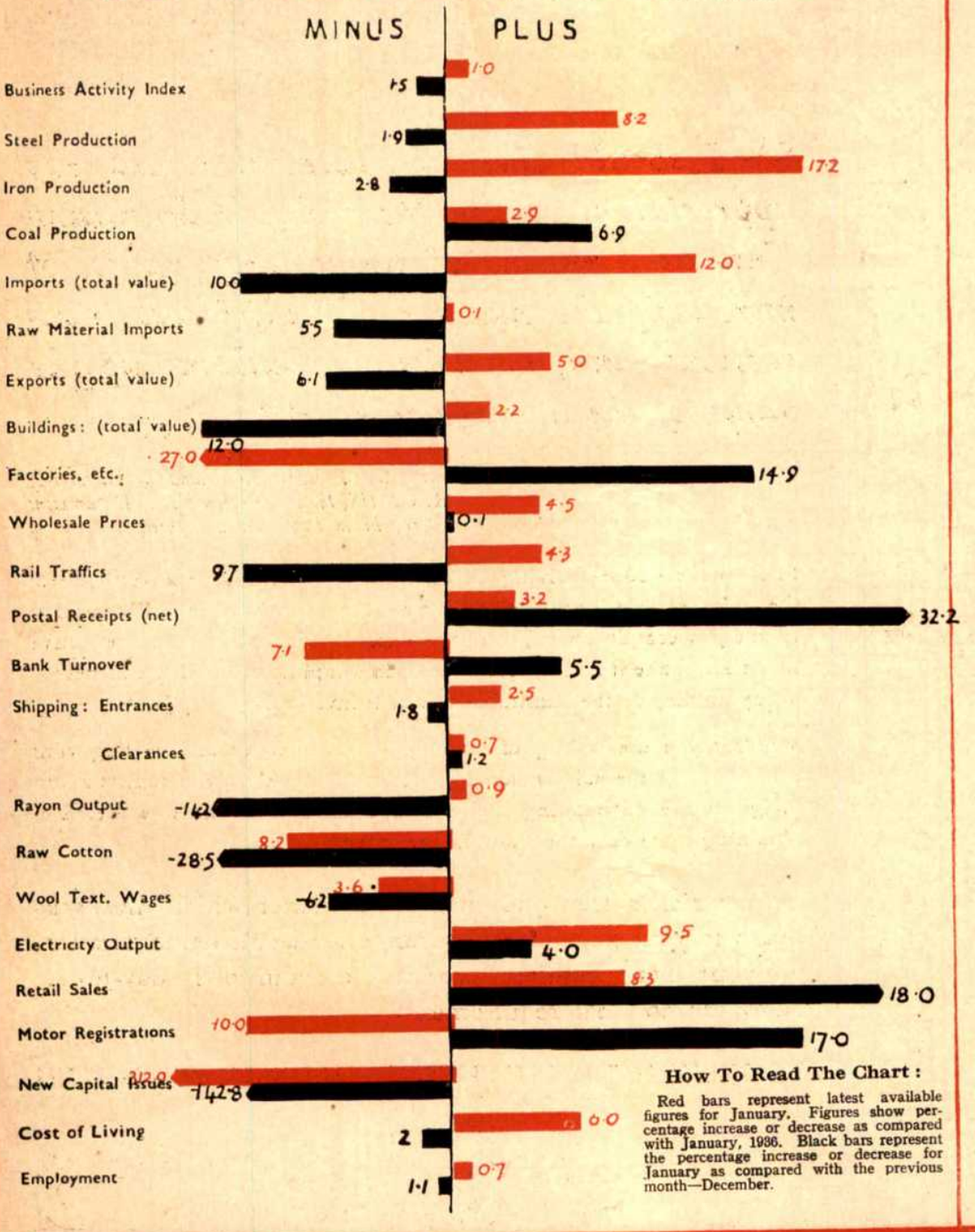
BUSINESS ACTIVITY FACTORS OF THE U·K

Look at this bar chart for guidance on topical business conditions. High spots of this month's showing are the increases in steel, iron and coal production, building, retail sales, electricity output, shipping entrances and clearances, etc.

How does your level of business measure up against the activity revealed by the bars? Business activity, for example, is 1 per cent above that of a year ago. Are you that active or more?

Studied, this chart will give you a bird's-eye view of the most vital business factors, keep you informed on trends. You can then use it to judge the degree of activity of your own business in relation with general conditions.

22 VITAL FACTORS



How To Read The Chart:

Red bars represent latest available figures for January. Figures show percentage increase or decrease as compared with January, 1936. Black bars represent the percentage increase or decrease for January as compared with the previous month—December.

THE BUSINESS TREND

Plan with

By CEC

FEBRUARY has brought an other series of crises. Abroa the German crisis, the Aus trian coup; at home the Ede crisis; in America business an stock exchange jitters; in th Far East and in Spain, intensi fied war activity.

Against all these difficultie business has stood up bette than the stock exchange; bette than many of us could have ex pected. For the paradox o partial recession amid peak act ivity generally still continues.

February's figures, therefore again resemble the curate's egg Iron and steel, coal, shippin and building all show increase over a year ago. Industrial pro duction is probably running a a level of 10 per cent over th 1929 level; the *Economist* Inde stands one per cent ahead o last year. Fundamentally th situation is sound; but a tem porary minor recession is sti under way. Its effects are bes seen by looking at the figures fo last month. For once the minu sign is a predominant factor.

Factories Finished So Up Go Houses Now

THE building figures are par ticularly encouraging. The show a rise of 2.2 per cent i January over last year. The suggest, however, that the boo in factory building is coming t an end. For this rise in tota building has been achieved de spite the fall of 27 per cent i factory and business premis construction. Such intense buil ing activity, with the rapid e pansion of re-armament worl ensures a high level of pro perity for this country f twelve months at least, espec ally in these areas where i creases stated are taking place Wales and Monmouthshire, 31 per cent; Yorkshire, 86.3 p cent; Lancashire and Cheshir 10.5 per cent; North and We Midlands, 12.4 per cent. Th total rises were worth almo £1,000,000.

The trade figures, too, a satisfactory, although both ir

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130, FLEET ST., LONDON

Confidence

CHISHOLM, M.A.

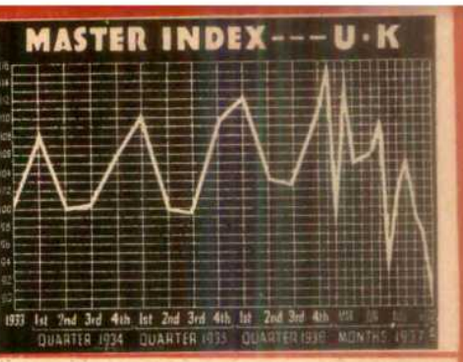
ports and exports fell as compared with December. Imports were up by £9,243,317 and exports by £2,082,406 over January, 1937. This has been achieved in spite of the pressure of re-armament work on the factories.

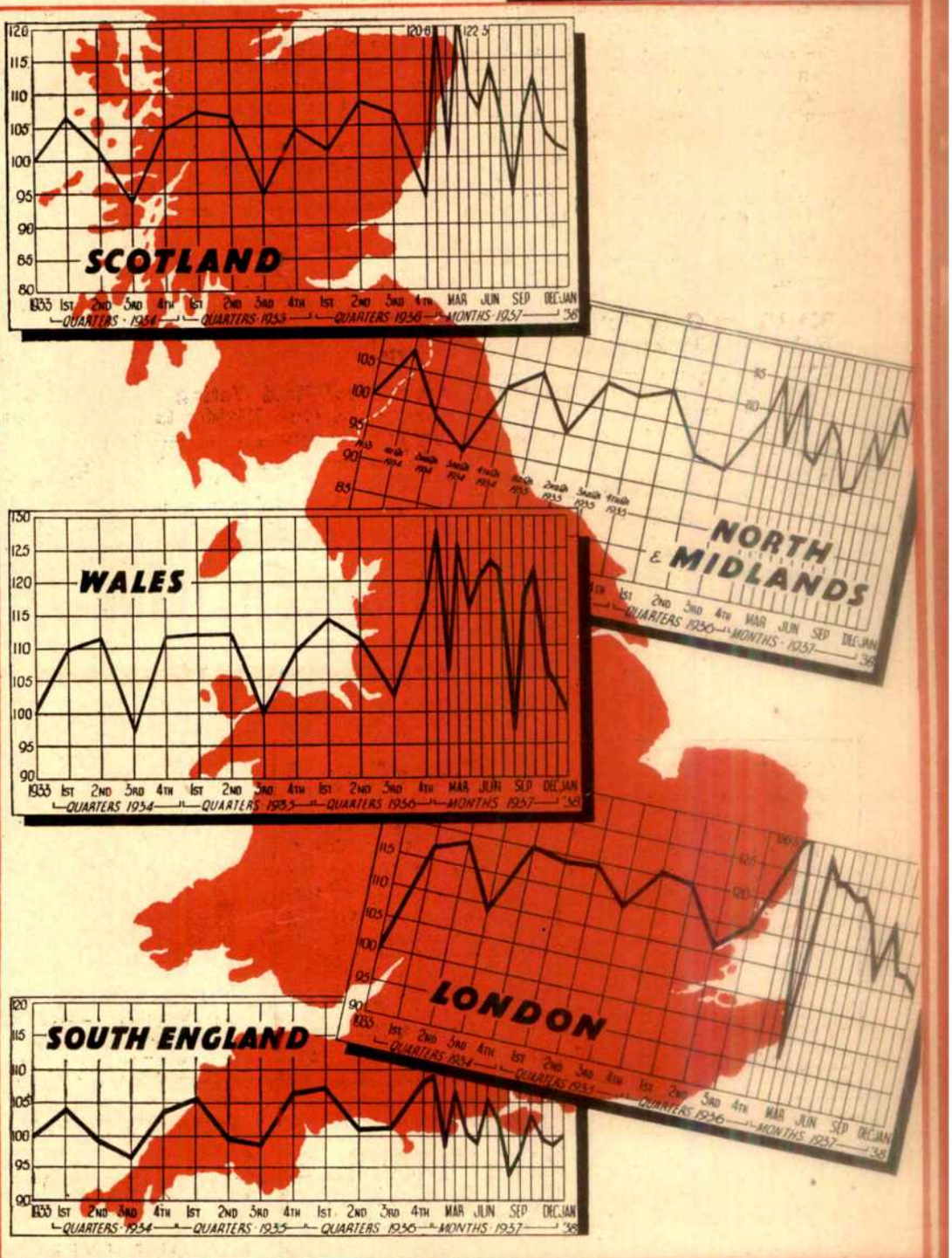
Britain Hanging Out Some 'No Sale' Signs

RE-ARMAMENT work will go on for another three or four years. At this moment I know of many large factories where production is booked for the next 2½ years and where work is going on day and night. No one knows just what is being lost in foreign trade through such conditions. Fortunately the authorities are aware of this danger.

There is added incentive to foreign sales efforts in the forthcoming Anglo-American trade negotiations. Any agreement reached between this country and the U.S.A. will not only have the immediate effect of stimulating trade between the two countries in an enormous range of products: it will help to set international trade moving more freely the world over.

BUSINESS REGIONAL ACTIVITY INDICES





Business Regional Indices

South up: all other regions down in January.

South shows surprising increase in January at 99.9 per cent* of 133 average business activity.

Recession affected most accutely the N. of England and Midlands which fell 3.9 per cent. This reflects the slacking off in cotton, wool and coal.

Fortunately Scotland shows little sign of even the normal seasonal decline (with a fall of .9 per cent on December).

Already this new set of index figures clearly shows the differing regional trends. By basing the index on the average for 1933, the degree of improvement since that date is clearly indicated. From the point of view of recent progress London and the North of England lead the way with 110.4 per cent and 111.3 per cent respectively.

The improvement which is anticipated in next month's employment figures should be suggestively reflected by the regional indexes.

*Provisional figure.

Reading the Indices

For these new indices, the average business activity in each area during 1933 is taken as the base (=100). For 1934-6, the indices are given quarterly, for 1937 by months.

53, LORD ST., LIVERPOOL
68, GORDON ST., GLASGOW
12, LEEDS RD., BRADFORD
25, NEW BRIDGE ST., NEWCASTLE
74, GEORGE ST., EDINBURGH

Jobless Children Add To Army On The Dole

THE recent rises in unemployment have been one of the mainsprings of apprehension. Do the January figures justify any such apprehension? Although there are 128,000 fewer in employment than were at the December count, there were 87,000 more at work than in January, 1937. The decline is partly seasonal, partly due to the 39,000 odd children added to the registers.

Among other factors which will influence employment must be counted the new Factories Act. Few business men as yet seem to realize the full significance of this Act. It calls for new equipment of all kinds, and, although it will mean heavy expenses to many manufacturers, it will at the same time stimulate demand in factories that employ thousands of workers. That the needs of the Act may be fulfilled over a period of some years is all to the good —it will level up the makers' sales curves.

Big Money Goes But We're Not Bankrupt

FEW people are seriously concerned by the growing adverse trade balance. The Board of Trade estimates for 1937 show a deficit of £52,000,000, as compared with a deficit of £18,000,000 in 1936, and a surplus of £32,000,000 in 1935. The excess of imports totalled £443,000,000. To offset these figures invisible exports, which include shipping earnings, overseas investment income and commissions, are surely optimistically estimated to have risen by £65,000,000. Even if the estimate be excessive, there can be little danger in the heavy imports of raw materials. Further, the rise of import prices by 14.2 per cent during 1937 is partly responsible for the increased deficit, for export prices rose by only 8.1 per cent.

One of the important factors bearing on invisible exports is British shipbuilding. There has been a big improvement in this industry. From 225,000 gross tons at the end of 1932, mercantile tonnage under construction has risen to 1,000,125 tons (1937). However, the work on hand was still 435,000 gross tons smaller at the end of 1937, as compared with that in 1929. This figure is all the more significant when it is realized that a tremendous amount of tonnage last year was for the Admiralty.

The damming up of international trade, therefore, has not only affected the volume of British exports but has dealt a serious blow to British shipbuilding and to the volume of invisible exports.

'Furriners' Hold Voting Power On Our Dividends

WHICHEVER way we turn in any attempt to assess outlook, we inevitably come back to the problem of foreign trade. In Lancashire, for example, the mills are beginning to work on a restricted basis. Over 50 mills, containing about 5,000,000 spindles, are preparing to close down part time.

America's situation remains intensely difficult with steel production at only 31 per cent of capacity, with 3,000,000 more unemployed than in the best quarter of last year; and, with the failure of building to revive, President Roosevelt's problems are acute. Apparently his immediate aim is the balancing of prices.

'Oh Yeah?' Tone Of U.S. Business Kills Upswing

TO achieve this the President will have to stop the rot in raw material prices which he did so much to stimulate by his speech of a year ago. It remains to be seen whether the new Farm Act, the Housing Act, the expanding relief programme and the policy of exempt gold imports up to £20,000,000 in any quarter from sterilization, will affect the situation. We have our doubts, so long as both big and little businesses are openly sceptical.

Taking an all-round view of conditions, my advice is to plan ahead with some confidence. The danger-point will be met in three or four years' time, when our armament programme is drawing to its conclusion. By then international trade may have revived to a point where normal trading is possible. Meantime the executive has to watch closely domestic conditions and to explore possibilities of overseas trade.

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Telephone: Douglas 2354/5
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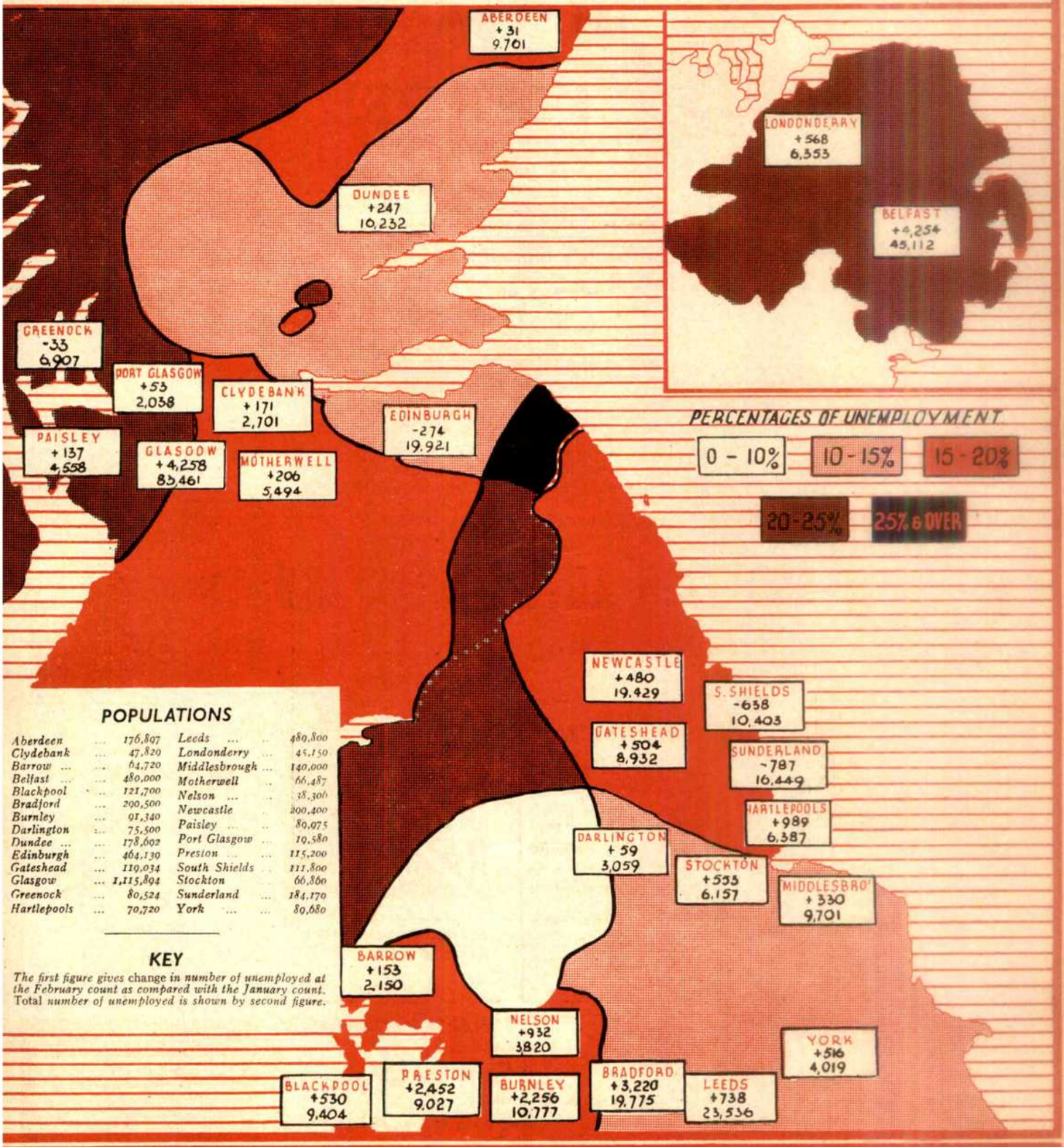
"BUSINESS" SURVEY OF HOME MARKETS

SCOTLAND and THE NORTH



POPULATIONS

Aberdeen	176,807	Leeds	489,800
Clydebank	47,820	Londonderry	45,150
Barrow	64,720	Middlesbrough	140,000
Belfast	480,000	Motherwell	66,487
Blackpool	121,700	Nelson	38,306
Bradford	200,500	Newcastle	200,400
Burnley	91,340	Paisley	80,975
Darlington	75,500	Port Glasgow	19,580
Dundee	178,602	Preston	115,200
Edinburgh	464,130	South Shields	111,800
Gateshead	119,034	Stockton	66,860
Glasgow	1,115,894	Sunderland	184,170
Greenock	80,524	York	89,680
Hartlepools	70,720		

KEY

The first figure gives change *in number of unemployed at the February count as compared with the January count. Total number of unemployed is shown by second figure.*

Scotland's National Newspaper

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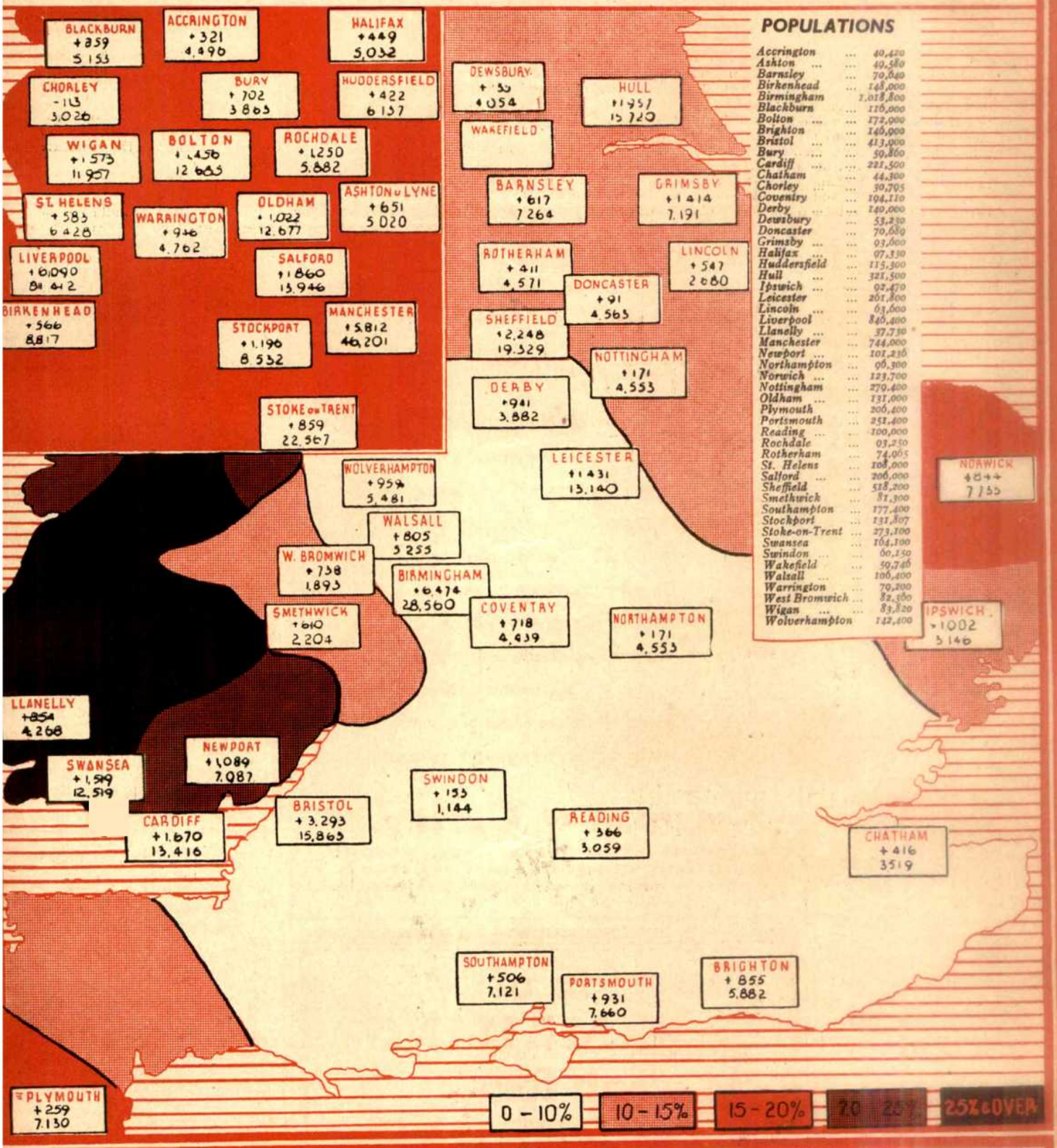
for particulars of this Business Building Section

"BUSINESS" SURVEY OF HOME MARKETS

SOUTH and MIDLANDS

Key: first figure gives change in number unemployed at Feb. count as compared with Dec. count. Total unemployed is shown in second figure



POPULATIONS

Accrington	40,420
Ashton	49,580
Barnsley	70,640
Birkenhead	148,000
Birmingham	1,018,800
Blackburn	116,000
Bolton	172,000
Brighton	146,000
Bristol	413,000
Bury	59,860
Cardiff	221,500
Chatham	44,300
Chorley	30,705
Coventry	194,110
Derby	140,000
Dewsbury	53,230
Doncaster	70,680
Grimsby	93,000
Halifax	97,330
Huddersfield	115,300
Hull	321,500
Ipswich	92,470
Leicester	261,800
Lincoln	63,600
Liverpool	846,400
Llanelly	37,730
Manchester	744,000
Newport	101,230
Northampton	90,300
Norwich	123,700
Nottingham	279,400
Oldham	131,000
Plymouth	206,400
Portsmouth	251,400
Reading	100,000
Rochdale	93,250
Rotherham	74,965
St. Helens	108,000
Salford	206,000
Sheffield	518,200
Smethwick	81,300
Southampton	177,400
Stockport	131,807
Stoke-on-Trent	273,100
Swansea	164,100
Swindon	60,150
Wakefield	59,746
Walsall	106,400
Warrington	79,200
West Bromwich	82,360
Wigan	83,820
Wolverhampton	142,400

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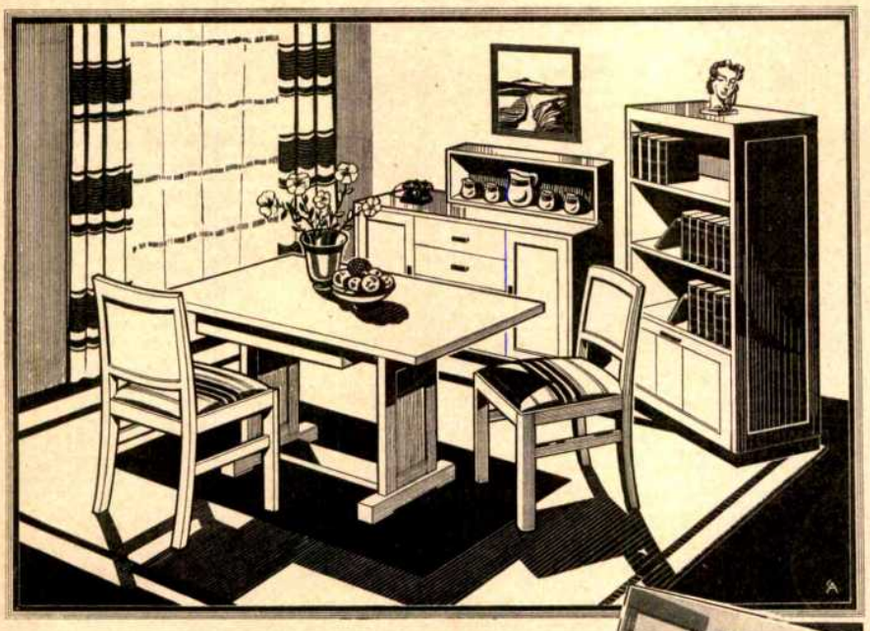
Here's *NEWS* of Active Home Markets

GREATER LONDON

£5,000,000 For Education is earmarked for spending 1938-41 by L.C.C. Of this, £4,000,000 is to go in improving buildings, laying out playing fields, providing technical and continued education equipment, etc. Articles to be bought include radios, film projectors, scientific apparatus, other equipment outside ordinary school necessities. Good chance here for lump sales—10,000 metropolitan milkmen are getting £1,500 a week more in wages, plus two weeks' holiday with pay. Which indicates trend of rising buying power of London's mass market.

Tabulate Growth of suburban areas where buying power is going up, specifically Wembley, Perrivale, Acton, Ealing, outlying W. and N.W. districts and Barking, Tilbury, Thames-side. Factory areas, these—Some hundreds to get work at new Tilbury area factory, 27,000 sq. ft. being added to Hoover's Perrivale plant, new offices and works of Lightfoot Refrigeration Co., Ltd., opening at Wembley.



By courtesy of Messrs. Gooch's Ltd.

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SOUTH

Scaled Rent Allowances for house occupiers with children is Guildford's scheme to help workers buy more food. Rebate of 1s. weekly for each child is given. Which will cost city £1,500 a year —Continued low unemployment figures are feature of southern counties, indicate steady spending power.

Over 2,500 Hastings families now have incomes over £500 a year. Of 64,000 population, 25,000 are "retired", which facts provides key to this compact market—Worthing's to spend £106,000 on new buildings this year, 50 per cent more than in 1937, to open new hotel at Goring, new block to shopping centre and 150 new houses.

Past 1,000 Mark is Eastbourne's number of shops, now including £20,000 extension to one big store, modernization of many others. Keep this in mind when planning snappy window and counter displays for local sales drives—£250,000 spent in town on construction. Hotel "clean-up" also in progress, one concern planning £40,000 extensions, six others carrying out modernization schemes.

MIDLANDS

Year and Half full-time work for Davy & United Engineering Co., Sheffield, results from Russian order for steelworks plant, etc.—Coventry's Transport Vehicles (Daimler), Ltd., just booked £250,000 bus orders—Iron-ore outcrops in Northants and neighbouring counties to be exploited—With iron/steel outputs at record figures, Sheffield and N. Lincs. areas are prosperous, good now for special sales drives.

Factory Extensions at Grimsby include: £6,000 development by Liverine, Ltd., makers of bird and animal foods; doubling of Goldstone & Sons' clothing plant; expansion of biscuit manufacturers' (Watmough & Son, Ltd.) factory—Town's airport is being improved at cost of £4,900 to meet growing traffic needs—Total fish landings, 1937, were 3,814,720, beating previous year's figure of 3,554,005 cwt. Sales of fish brought £3,685,662 into Grimsby compared with 1936's £3,629,605. Hence, now's the time to sell to this district.

England's Second Largest port, distinction claimed by Hull, proposes £3,000,000 dock improvements, adding to facilities of new factory development in area—Coventry Machine Tool Works, now employing some hundreds more in new workshops, are to build "biggest ever" 100-ton horizontal forging machine—Wolverhampton's Fischer Bearings Co., Ltd., have taken over old Sunbeam, 5½ acre buildings for conversion to world's biggest ball-bearing factory and will employ nearly 1,000 workers—New "camera" rifle, invented by Leicester man, soon to be produced commercially—Sheffield's latest is steel, resisting oxidation, machineable, suitable for working at high temperature.

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- **HOUSE ORGANS** — Rembrandt Gravure helps particularly with the House Organ because you can have brilliant colours, arresting pictures and luxury presentations—and don't forget at economical prices.

When reviewing the many advantages of Rembrandt Gravure, bear in mind that you are spared the cost of blocks for your illustrations. Remember, too, that among the leading National advertisers, mail order houses and manufacturers, Rembrandt Gravure is regarded as the most artistic and sincere of all reproduction processes —as well as the most economical ; and it is equally suited to long and short runs.
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Announcements for the next issue should reach BUSINESS, *Whitefriars House, Tallis Street, E.C.4 (Phone Central 9891), not later than March 21.*

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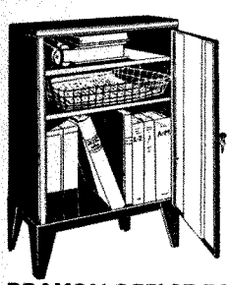

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A Business Expert's Tribute to his Best Friend . . . . . .

Mr. G. STANLEY WALPOLE, D.Sc.

The article published below is by Mr. G. Stanley Walpole, D.Sc., Chairman and Managing Director of Messrs. Masson Seeley & Co., Ltd., whose ingenious system of producing sales point publicity is so extensively used by business houses. It was dictated in the form of a letter to a friend who had asked about the Dictaphone, entirely unsolicited by and without the knowledge of The Dictaphone Company. It is a remarkable tribute.

"SPEAKING from personal experience, I should say that the curse of practically every progressive business as it develops is that the profits to which one feels one is entitled are cut by costs which increase at the same time.

More business for us has usually meant more staff. Some ten years ago, however, we made a determined attempt to stem the march of overheads by installing Dictaphones. We have not regretted the experiment. Only one of the five executives to whom they were entrusted has failed: and *he* has failed because he would not learn. The other four machines, and the one that failed in other hands, have been in continuous use ever since. How many dozens of times they have saved their cost cannot be even guessed at.

My own instruments (I have one on my desk at the Office, and one in my study at Home) are in use continuously year in and year out.

Why?

Because the Dictaphone is the instrument that gets things done.

At one time or another we have experimented with practically every office efficiency speciality there is, but the Dictaphone is beyond comparison king of them all. It enables you to get through a day's work that you could not possibly tackle in any other way—not even if you had a whole row of secretaries, each one waiting for the other to come out before she went in. It short-cuts every time-wasting activity in a busy man's life.

For example, you don't have to waste time (yours and his) getting some executive on the telephone; you just dictate the instruction you want to give or the query you want to raise, and it is fixed for ever—and the answer comes back in the same permanent form. Telephone misunderstandings are avoided, because both questions and answers are transcribed as they were originally uttered.

And you don't have to write a laborious and often (by force of circumstances) inadequate note of the sudden idea that occurs to you when you are in the middle of doing something else. Just a few words into the Dictaphone, and then you can forget it. The instrument does the remembering for you, because you naturally address many of these notes to yourself.

If you have a Dictaphone at home, as I have, to supplement your Office instrument, late evenings at the Office can be cut right out—and your hard-working secretary can get off sharp to time, too. In the quiet of your own study, no enthusiastic colleagues to divert your attention with their triumphs and their problems, an hour's steady work with the Dictaphone will see more accomplished than four or five hours of your official day.

Of course, it is an instrument that you have to learn. You don't become a proficient pianist in ten minutes. And as with every other instrument, proficiency in using the Dictaphone is increased by experience and practice. But it is all really very simple, and once you have mastered its technique, you have a friend who will never let you down.

It is at least five years since a record made by me was broken in transit, and at least as long as that since one of my staff had to ask me what I really said, or if I would mind listening back to some passage on a cylinder. Every word reproduced has been audible, clear, and unmistakable. Many years have passed since I learnt of a mistake in transcription from my cylinders. Indeed, although at one time, in the early stages of my Dictaphone experience, I used to read Dictaphone letters with special care, I can now let somebody else sign them for me. They are always correct—or rather, if they are not correct, they are certainly what I said.

If I were told to-morrow that I must sacrifice one of the aids to efficiency which I have collected in my Office through the years, I would certainly say: "Take everything, if you must; but leave me the Dictaphone." More than that. If any foul misfortune overtook this business and I found myself starting my business life all over again, the first thing I should buy for my new Office would be a typewriter, and then, without question, a Dictaphone. These two things really go together.

Within an hour or two I am starting on a short holiday. I am going straight from here to the boat: this letter is one of the last things I am doing. On his way back my chauffeur will leave six cylinders at the Office, and all will be well.

All the things I want attended to while I am away will receive attention.

No frantic ringing up of executives with last-minute instructions: no anxieties as to whether they have got my ideas right: no waiting for them to write things down.

I made up my mind to go, yesterday . . . six records . . . and I'm off.

If anybody knows a better way, I will be pleased to hear about it. But nobody does!

I'll ring you up as soon as I get back . . ."

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That's one side of the picture: the power of the Radio Times to penetrate, to go "deep," to reach where it would be uneconomic for travellers to go.

And here's the other side: the power of the Radio Times to spread, to go wide, to flood the big cities as surely as the outpost villages. For the Radio Times is read in the North-of-Scotland town. And in the South-Coast watering-place. *And everywhere in between.* It's read by the £10,000 a year man. And by the 40/- a week man. *And by every class in between.*

Over 3,000,000 copies are sold each week. At least 12,000,000 people read it. It's the one medium which honeycombs the British Isles at all income-levels. So if you're an advertiser it's your surest and cheapest way of reaching your greatest market. And if you're a retailer, then to stock the goods it advertises is *your* surest way of selling your goods — and selling them quickly.

* * *

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VOL. LXVIII

BUSINESS

THE COMPLETE JOURNAL OF
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Incorporating "The Journal of Commerce", "Modern Business", "System", "Business Organization and Management"

No. 4

APRIL, 1938

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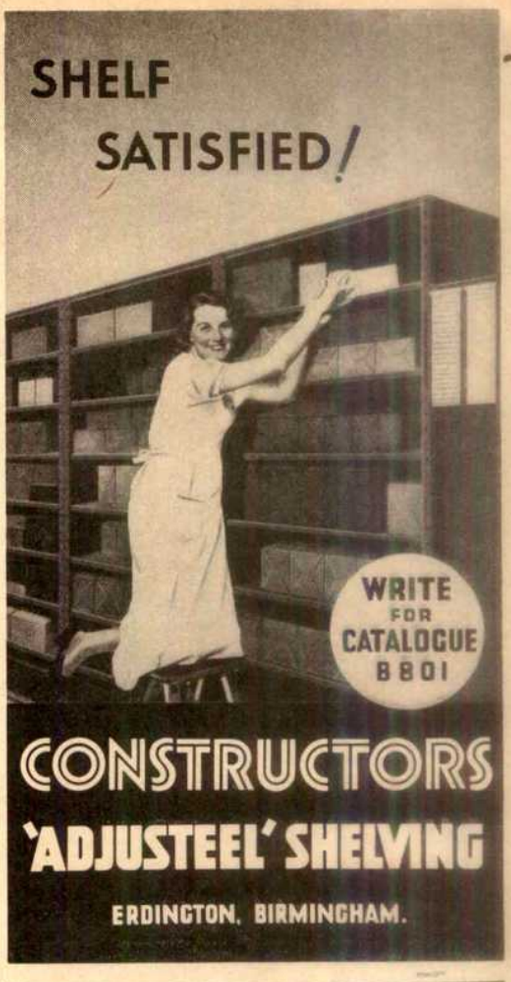

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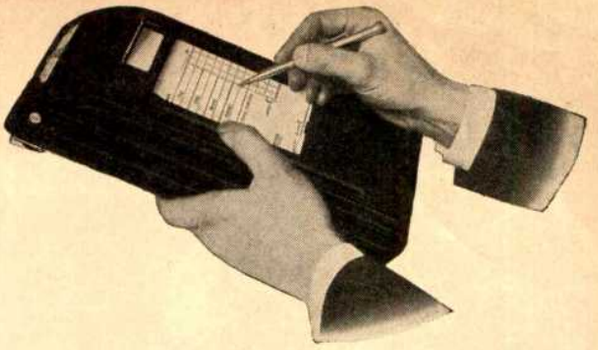

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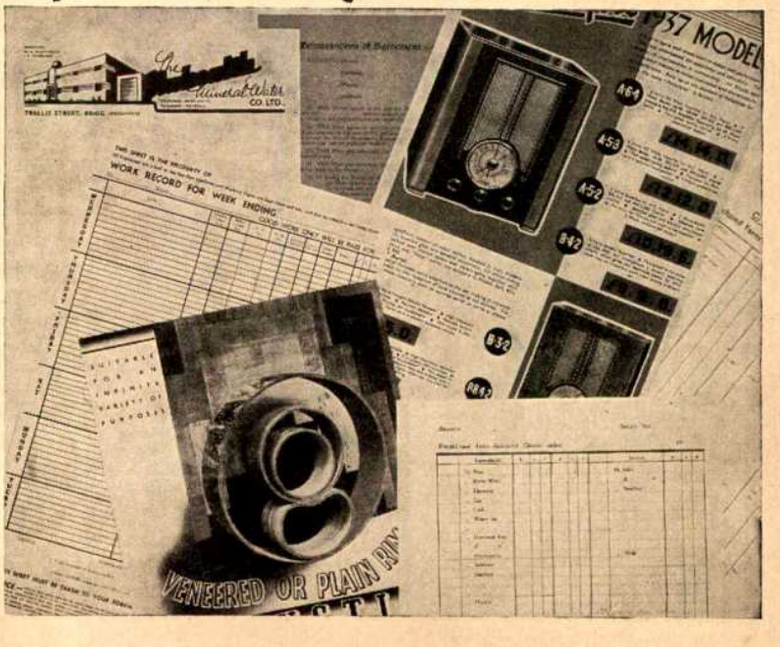

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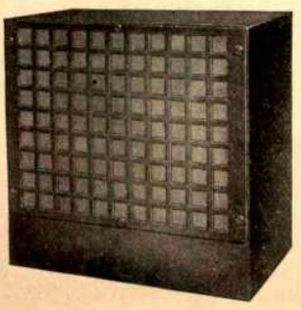
FOR AIR CONDITIONING



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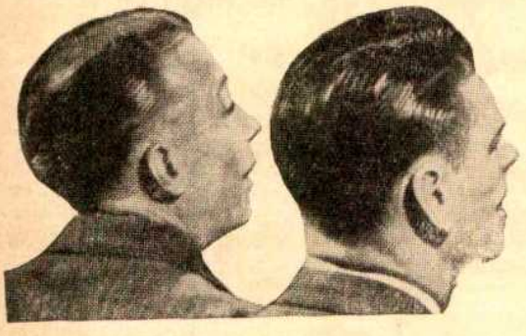

". . . surely there's some way to avoid all this!"

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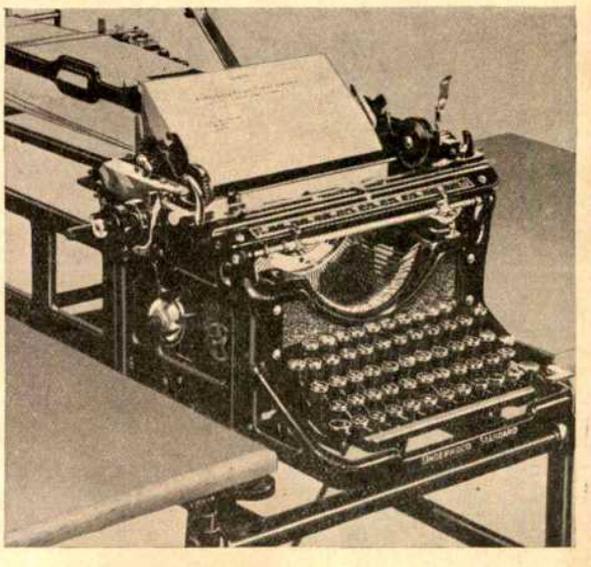
We would welcome an opportunity to prove this to you.



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How the CYCLE INDUSTRY *Got Its Second Wind . . .*

In 1919 the late Lord Northcliffe declared 'cycling is dead' . . . To-day the cycle business is one of Britain's biggest and most prosperous industries

from an Interview with

G. H. B. WILSON, M.C., A.F.C.

Director and General Manager, The Raleigh Cycle Co., Ltd.

NO one will deny that the late Lord Northcliffe was a man of foresight and keen judgment. And it was not only in the sphere of newspapers that his vision was later borne out by actual achievement.

He foresaw the future of motor transport, and supported its early development. He envisaged the possibilities of the aeroplane, and backed aviation.

But immediately after the Great War his lordship publicly announced the opinion that *cycling was dead*.

Well, perhaps there was every indication to support such a statement. The War, having reversed normal conditions, left the country in a state of economic chaos that made prophecies of any sort at that time more than ordinarily speculative.

For one thing, mechanical transport had received unprecedented development. It was difficult to visualize a return to such an apparently humble means of locomotion as the bicycle. For another, the great mass of people, normally the "bicycle market", had become the "moneyed" section of the public with no likelihood, so far as one could see, of reverting to a condition wherein they would have to forsake their newly acquired motor-cars.

The "new poor", moreover, the former wealthier section of the community, would not, in the prophet's eyes, call attention to their condition by taking to the bicycle. Such was popular conception of the state of things in 1919.

But what was not generally realized at the time was the fact that during the War the bicycle industry continued to turn out many thousands of machines each year. True, the cycle manufacturers, in common with all engineering firms, were primarily engaged on munitions. But from the fact that in the year 1919-1920 the Raleigh Company alone produced 100,000 cycles, it will be understood that the bicycle business was one activity that the war did not cripple.

SIR HAROLD BOWDEN, Bt., G.B.E., Chairman and Managing Director, son of founder of the firm. From Clifton, and Clare, Cambridge, joined the business in 1900 and worked through the shops. Was a brilliant technician and later displayed outstanding qualities as an administrator and organizer. Has piloted Raleigh through all vicissitudes of the past twenty-odd years. Personally knows more about the technique of making a bicycle than does probably any other man in the country

Besides taking a leading part in all cycle trade organizations Sir Harold was, in 1928, Vice-President of the F.B.I. and is a Vice-President of the Institute of Linguists.

Outside business he is keen on rowing, yachting, shooting and fishing. From 1930 to 1934 was President of the British Olympic Association

How the Post-War Industry Has Developed

The cycle industry to-day, however, is so developed that it cannot even be compared with its pre-war and war-time state. And this tremendous development has been secured in face of the fiercest competition, especially from such counter attractions as cheap motoring, tremendously extended bus services, cheap rail travel, hiking, cheap foreign tours, and so on.

To see what has really been done in the cycle trade to build up this great industry, one cannot do better than look over the methods and achievements of the Raleigh Company.

Raleighs started making cycles in

Upper: G. H. B. WILSON, M.C., A.F.C., Director and General Manager. Joined Sturmey-Archer Gears, Ltd. in 1927 as manufacturer's representative; was elected to the board in 1929, and to the board of the Raleigh Cycle Co., Ltd. in 1931, becoming general manager of both companies in 1936. Educated at Marlborough and Pembroke, Mr. Wilson, in conjunction with the chairman, is the driving force behind the companies' activities

Lower: W. H. RAVEN, Works Director, administrates, on the technical side, the Raleigh policy of progressiveness in cycle design, in plant, equipment, and methods. Served his apprenticeship in the Swift Cycle Co., later joined Lea & Francis, notable in those days for "luxury" type bicycles

1887, fifty-one years ago. Behind all the progress that this great company has made in the period under review, however, is the personality of the chief, Sir Harold Bowden.

Sir Harold is no mere figure-head. He is probably the greatest authority in the country on the technique of the cycle manufacture. As a boy he entered the shops when his father, the late Sir Frank Bowden, was head of the firm. He worked through each department and got his experience from the bench as well as the text-book.

Essentially practical as he is, however, Sir Harold is a brilliant administrator and has the "forward" outlook. It is the combination of those qualities that has enabled him to maintain Raleigh as the foremost cycle manufacturing concern in the country and leader of the British cycle industry in design and equipment.

In 1927 Mr. G. H. B. Wilson joined the organization and was appointed to a seat on the board in 1931, later becoming general manager in February 1936. He is now the main driving force in the company under Sir Harold Bowden.

Mr. Wilson explained that under the new conditions following the end of the War the six following factors came into force, and to-day they are still definitely important to the success of the cycle trade.

These Six Factors Had the Controlling Influences

1. The War had completely revolutionized the living methods of almost every family in the land. It had introduced them to the open air, and the influence of this factor was greatest of all on women.

There is no means of getting at any accurate figure, but the increase in the number of women who took up cycling in 1920 compared with the number in 1914 was enormous.

In Mr. Wilson's opinion this was really the first and greatest forward step in the post-war history of the industry.

2. In the few years immediately following 1920, there came the steady improvement in road surfaces. Mr. Macadam virtually banished the bugbear of dust. With the increase of motor transport on the roads it is doubtful whether the significance of this dust banishment to the cycle business is fully realized. The substitution of road-comfort to the cyclist in place of a condition wherein he was almost completely blinded and half-suffocated every few minutes, acted as a really powerful sales factor for the cycle industry.

3. The post-War housing estate development all over the country and the movement among industrial concerns to build factories in out-of-town areas offered still further openings for the bicycle. In fact, it can be said that the development of many of the housing estates, particularly of the artisan class, were only possible through the existence of the bicycle.

4. The craze for the open air and the wider social freedom for young people of both sexes to get together, expanded the "club" idea. The bicycle solved their transport problem.

5. The vastly improved quality of the bicycle itself due to knowledge of metallurgy gained during the War.

6. At a period of high prices, the inordinately low cost of cycling (less than a shilling per thousand miles!) had its obvious appeal to millions.

The great point about the Raleigh Company is that since its inception half a century ago it has been strictly a cycle *manufacturing* concern. It has designed and manufactured every part of the machines that carry its name. This is an important point as it distinguishes them from many firms that merely assemble all or a proportion of the machines that carry their brand.

It is because they have always been the designers and makers of cycles that Raleigh can claim to be the first to introduce the various features that have made bicycle history.

For example, before the War, Raleigh absorbed the famous Sturmey-Archer Gear Company almost as soon as that concern entered the field. It was Raleigh, therefore, who popularized this great cycling innovation.

The Bowden brake—introduced by the company was revolutionary in its field. The chromium-plated spoke was another important advance, and it was followed this year by the stainless steel spoke. Then there came the hub-brake and, latest of all, the dyno-hub electric lighting system.

These original features naturally acted as powerful sales factors and kept the Raleigh bicycle always in the forefront of technical development.

It is in fact this leadership in technical and mechanical improvement that is the essential policy responsible for this great company's progress in the post-war cycle field.

Continuous Search for the Most Efficient Plant

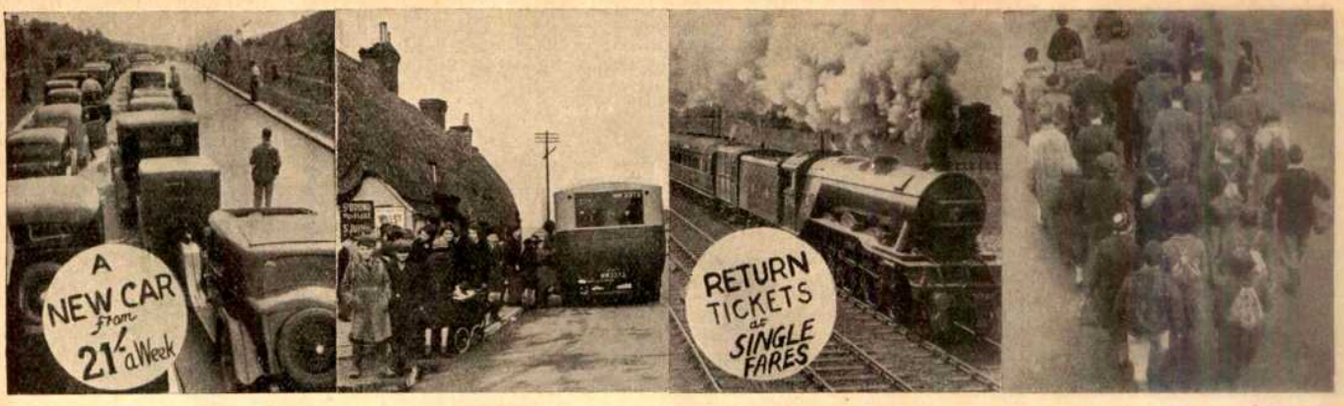
Technical genius behind all these achievements is W. H. Raven, works director.

Working in conjunction with Sir Harold Bowden's progressive policy, Mr. Raven devotes his administrative time to ensuring that every unit of plant in the Raleigh Works is the most modern and efficient of its kind.

Everything depends on the results

The cycle manufacturers give their dealers complete sales-aid service. Raleighs outline theirs in book form and every dealer gets a copy. Note requisition forms on the right. Supplies can be obtained only on these official indents

In powerful competition to the cycle business!



Cheaper and cheaper motoring. Expanded country bus services. Special cheap rail travel Hiking.

Twelve million people in this country ride bicycles to-day

Despite the enormous development of these alternative means of country travel the bicycle has more than held its own. By technical improvements in machine design and by cleverly planned nation-wide publicity the cycle manufacturers have built up one of Britain's biggest businesses. Last year the Raleigh company alone marketed half a million machines

shown by the costing system. The moment the cost scrutineers observe that the unit cost of production of any part rises above the quota set, investigation follows immediately. The fault may be human or mechanical, but whatever it is a remedy is applied at once. If it is a machine that is giving any indication that it should be replaced by a new and more efficient type, the replacement is unhesitatingly made.

In this connection it should be mentioned that the Raleigh technical staff are in fact always searching for new and better machinery. They were first of the cycle manufacturers to install a spray-bonderizing plant. They have the largest and most modern plant for chromium plating. In the whole of the Raleigh plant, which to-day employs over 5,000 workpeople, there is not a machine that is not the latest and most modern of its kind.

It is in this way that costs are kept down and mechanical superiority is maintained.

Through knowledge and experience gained during the war, Raleigh engineers evolved new steels and new techniques that enabled them to produce a post-War machine that was considerably lighter, stronger, and better all round than its pre-War counterpart.

That was an important sales factor that appealed to modern cycle enthusiasts.

Another revolutionary point of which the Company were pioneers, was the introduction of the twenty-six inch wheel in place of the old standard wheel of twenty-eight inches diameter. Under modern traffic conditions, this was a great safety measure as it allowed riders to touch the ground with their feet without dismounting. It was also one of the factors that enabled weight to be reduced.

Almost immediately after its introduction, the twenty-six inch wheel became practically universal throughout the cycle industry.

Raleigh Never Entered The Low-Price Race

Now Raleigh has never entered the field of the *cheapest* bicycle. Its popular-priced models have always been some twenty-five per cent higher than many heavily advertised makes catering for the cheap market.

How, then, have Raleigh maintained their leadership in sales?

The answer is by manufacturing a high-quality article and consistently advertising *quality*.

One of the best-known Raleigh advertisements, although it was by no means the most widely exhibited, was the glass-fronted case in which was displayed the unassembled parts of a machine. The "all steel bicycle" was the slogan attached to this display.

This unit thoroughly conveyed the idea that Raleighs were the actual manufacturers of every component of the machine carrying their name. And the unfinished steel parts revealed the quality of the material of which they were made.

Cycling is the most economical form of speedy locomotion known, yet, with running costs so incredibly low as to be less than a shilling per thousand miles, cyclists prefer quality machines. This is borne out by the fact that during the recent trade recession the sale of Raleigh machines did not fall off to any appreciable extent.

Another great factor behind the success of Raleigh sales is the thoroughly sound system of dealer distribution and the goodwill the company has built up over many years of close co-operation with their dealers, who have come to rely on the Raleigh organization for the protection of trade stability, maintainance of reasonable profits and retail prices.

(*Continued on page 28*)

Conditions Which Helped the Cycle Industry

War revolutionized methods of living : introduced the benefits of open air : tens of thousands more women took to cycling.

Post-war improvements in road surfaces : dust bugbear banished.

Industry's move to locate in out-of-town areas.

Public's move to live out of towns, further away from industry.

What the Manufacturers Have Done

With lighter and more attractive machines consolidated and expanded its new women's market.

Better all-round design of machines : new features introduced.

Consistently progressive methods of manufacture in order to sell at keenly competitive prices.

Nation-wide publicity planned to stimulate road travel by bicycle, to foster the club spirit and to popularize the machine as the most economical of all means of transport.

The Month's NOTES on

Management Trends

By The Editors

Business Needs The Strategist

THE Cadman Committee's recent recommendation for the appointment to Imperial Airways of a full-time chairman confirms the need in all businesses for a *strategist*.

The chairman, if he fulfils his proper function, is essentially the strategist of the organization of which he is the head. Very often, however, this function is not properly understood by others in the concern.

Lesser executives are inclined to think in terms of well-appointed offices, of desks, and of fairly regular routine and hours. They are apt to become sometimes rather critical of the chairman's long trips abroad, his very erratic attention to the office, and his apparently casual mode of business life generally.

"Pretty good time the old boy has," they say, "but what does he *do*?"

The "old boy" is probably not having such a good time. His position as strategist is by no means a sinecure. He carries responsibilities that outweigh anything met with by the ordinary executive in the course of his daily routine.

The effectiveness of the business strategist cannot be gauged by the amount of obvious work that he does. A desk, regular hours, and all the humdrum of routine is fatal to the success of strategy, fatal almost to its very existence.

How the Strategist Works

LET us quote an example of a strategist's successful work. There exists to-day in this country a certain textile firm (we cannot be more specific in our identification) which is a huge and prosperous concern. The names of its products are familiar to every woman in the land.

The growth of this firm has been due entirely to the strategy of the man who is its nominal head.

This man, who is in no way concerned with the daily routine of the business, saw signs soon after the war of public favour turning steadily but permanently away from his firm's products.

Here, then, was a problem. Not a short-range sales problem, but a matter involving the firm's entire policy.

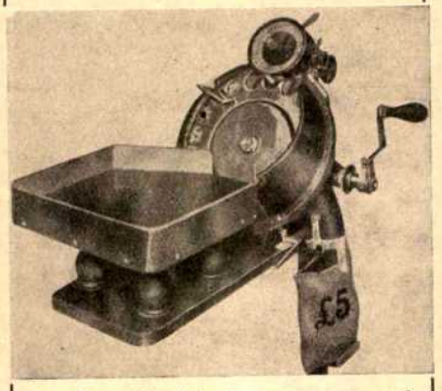
To combat the threatening situation this strategist decided at once to spend something like £5,000 (a lot of money for the firm in those days) in launching what was for them an entirely new industry.

THIS new industry was a series of special publications to educate women into quite new ideas of a certain home craft, and to run in conjunction with them plans to create and popularize various fashions in materials and styles.

Such a venture was an extremely long shot. It took weeks of travel in this country and on the Continent to gather the data, and then it needed very wide vision to foresee all the factors involved and to calculate their potential effect as an ultimate business-builder. It also required real courage to make a big financial investment in such a long chance.

TO-DAY the result of this strategy can be seen. The firm, once threatened so dangerously, now employs many thousands of hands and is known all over the world; while its publication side is bigger and far more influential than any of the professional publishing houses in its sphere.

Ten Times Faster Coin Counting



In thousands of business concerns much time in the aggregate is wasted in counting and checking coin. With a power fed coin counter a junior operator can accurately fill £5 bags of mixed silver at a speed of less than 20 seconds per bag . . . and no checking is necessary. The machine shown here is a hand-fed model. Total value of coins passed through the machine is recorded on a dial. The machine can also be used for counting and separating coppers. Capacity: £950 mixed silver per hour in £5 bags; £1,200 per hour in bulk. The machine is supplied by the International Coin Counting Machine Co., Ltd., 133 Rosebery Avenue, London, E.C.1.

That, then, is strategy; the dealing with wide issues. It calls for freedom to stand high and see far. The busy executive engaged on day-to-day affairs is not fitted for this work. He has not the facilities for it, in fact, more vital still, he rarely has the temperament.

It can be said with a great amount of truth that the rapid progress made by some of our larger firms is due to strategy. The converse is also true: inability to employ strategy—or even to understand what it is—is the reason why many small firms remain small.

Modern Systems' Real Purpose

AN important point arose during our conversation last month with the secretary of a well-known concern. We had been talking about modern systems in offices and works and the various advantages they introduced in the way of labour and time saving.

This secretary, who had just made several additions to his mechanized office equipment, expressed a point of view that is too rarely appreciated by the managements of companies.

"Costing the actual work of these modern systems," he said, "is by no means the factor we concentrate upon. The cost of purchase and running our specialized equipment is, we *know*, more than justified by the saving of time to our top executives and the more effective control it gives them over the activities of the works. If their operation as purely office plant shows a profit in that department—as I believe it does—then that's so much extra benefit."

WE commend this viewpoint; it appreciates the present highly developed office appliance or system for what it primarily is . . . an instrument for *administration and management*.

Far too many managements still look upon these scientific appliances as merely improvements on the normal equipment of an office.

If a progressive office manager wants to improve the value of his department to the organization as a whole and asks for money to install more modern systems, he is too often repressed as extravagant. The short-sighted view is taken that these "gadgets" are wanted as embellishments to the office or something with which to relieve the work of clerks.

A PROGRESSIVE management advocates, *demands* even, the best the office can produce, and gives its co-operation in securing all the most modern equipment necessary to provide these results. In other words, the management should lead the office, not oppose it.

We have frequently said in these columns that there is room for a new executive post in business: a man, call him "systems manager" or anything you like, but a man of executive status whose whole time should be devoted to finding and harmoniously running the most efficient equipment procurable for yielding the *facts* on which the top management can most profitably run the business.

This *COST* of Holidays With Pay . . .

"To us, this year, will be £45,000; we regard it as insurance for improved goodwill, health and happiness of our workpeople. We do not attempt to recoup by extra cheese-paring economies" . . . says

C. J. BARTLETT

Managing Director, Vauxhall Motors Ltd.

THIS summer in Britain there will be about a million more workers than last year who will get an annual holiday for the first time with pay.

The total number of workers in the country to enjoy this benefit will thus be raised to somewhere about five millions. Of these it is calculated that not more than three millions are purely manual workers.

Among the new million getting paid holidays for the first time are 500,000 engineering workers, 100,000 shipyard employees, 100,000 railway shopmen, and 40,000 iron and steel workers.

From the factories up and down the country, however, there are still about thirteen million workpeople who do not yet get paid holidays.

WHY Should There Be Any Discrimination?

Speaking on behalf of this company I should like to state that we have never been able to understand the management mentality that discriminates between salaried staff and hourly workers when it comes to the question of annual holidays. The people in the works are every bit as essential as those in the offices for the progress and profits of a manufacturing undertaking. So far as we see it there is not the least reason why both sections should not be treated in exactly the same manner in regard to payment during holidays.

In fact there is plenty of evidence to support the argument that the nature of many manufacturing processes make the fully paid holiday far more necessary to the workers in these sections than to the workers in offices who enjoy much better working conditions throughout the rest of the year.

In this company every employee gets a fully paid annual holiday. This will cost us, for 1938, the sum of £45,000, of which £29,000 goes to hourly paid workers.

We have been asked; how do we regard that quite considerable extra cost; do we, by additional economies made at various points throughout the organization, endeavour to offset it?

Answering the latter part of the question, the reply is: No. The consistent policy of our management is one of scientific, *constructive economy*. Even if our attitude towards the subject of our employees' welfare was so mercenary as to prompt the idea of offsetting this factor by pulling in the belt somewhere else we could not do it without that kind of skimping which is dangerously *false* economy.

The reply to the first part is that we regard this expenditure purely as our insurance for improved goodwill, contentment, health and happiness among our workpeople. We tie no string to it at all.

Incidentally, I might mention here that only last month we distributed £65,478 among our workpeople in accordance with our Employees' Profit Sharing Scheme. Every Vauxhall employee is given a share in the profits he helps to create. This is just another indication of the company's opinion as to the relationship that should exist between employers and employed.

Each Department Budgets for its Own Cost

At the beginning of our financial year each department draws up its budget for the forthcoming twelve months. Departmental executives include in their estimates the figure for paid holidays for every person concerned. This figure of course, is shown in each case as a single total amount. These paid holiday costs are then handled by the accountants who distribute them over the year with the rest of the overheads. This, briefly, is the way in which the charge is carried.

I have been asked, also: what about "staggering" holidays in order to help even-out the short intensive peaks normally experienced in many of the

Here, paid holidays act as Stabilizer of Labour

AT this great electrical factory, in another part of England, 2,000 workers got paid holidays for the first time last year. "The cost has been well offset," said the managing director, "if we consider alone the stabilizing effect it has had on our employees. We have not suffered, as many firms have done, a flight of skilled labour to other concerns that do pay for holidays"

consumer industries, railways and hotels?

Ordinarily there are, of course, thousands of business firms throughout the country who could make their plans much more economically if the intensive holiday peak of July and August was ironed out. And if our great manufacturing firms could in fact get a proportion of their employees to extend their holidays out into the earlier and later months a great deal of congestion could be avoided.

In a concern like ours with a well established staff doing highly specialized work the proportion of married men (mostly with families) is 70 to 75 per cent against the much smaller percentage of single men and women. This majority is therefore governed mainly by the fixed custom of school holidays in August.

Until schools throughout the country abandon the practice of confining summer holidays to August I am afraid that industrial firms will not be able to do very much in the way of staggering holidays.

Some Firms Make Paid Holidays *CONDITIONAL . . .*

IN addition to Vauxhall Motors Ltd., of Luton, whose remarks on the holidays-with-pay and the staggered holidays questions we give in full, we contacted ten other firms in various types of industries.

The questions we put were: in what light do you regard the paid holiday policy; how do you allocate the cost; do you try to offset it with specified economics in the business? Do you, or could you, stagger your holiday periods into the earlier and later summer months?

We have not space in which to give all the replies in detail, so we have summarized them.

Out of the ten firms approached only one revealed the grudging attitude that: "We feel we've *got* to pay for holidays." In other words, that because competitors are doing it they feel they must, for self-protection only, follow suit.

The other firms had the more progressive outlook that factory workers *earn* a fully paid holiday just as much as office workers do.

Although, at the time of writing, the Report of the Government's Holidays with Pay Committee* has not been issued, management in industry generally is fast coming to the view that improved employee relationships is a vital thing to consider and that this paid holiday factor is one of the important points in it.

Mr. A. R. Porter, managing director of Addressograph-Multigraph Ltd., echoed Mr. C. J. Bartlett's opinion. "Why *should* there be any discrimination," he said, "between the works and the office employees?"

Six firms out of the ten, however, while in full agreement with the idea of paid holidays, make it conditional on good time-keeping during the rest of the year.

The managing director of a large confectionery firm said: "We give one hour's holiday pay for each week's perfect time-keeping, fifteen minutes being deducted for every time late."

The general manager of a firm outside Birmingham making small machine parts, said that for holidays to be of any benefit at all the workers should certainly get away from the industrial areas and that employers should at least help them to do this by paying full wages for the holiday period.

This firm gives one week's paid holiday to works employees with two years' service and under, and a fortnight with pay to all with over two years' service. Those with over five years' service get an extra two days at Christmas.

The Plan Acts as a Labour Stabilizer

Here, too, good timekeeping is expected, but no specific conditions are laid down. "The increased period of paid holidays for length of service has definitely helped to stabilize our labour," this general manager told us.

In regard to the extra cost of the paid holiday all the firms approached simply add it to the overhead burden and spread it over the year. We found no case where selling prices were in any way affected.

As one director put it: "It is a cost that one can definitely foresee and for which one can budget in advance. In many firms where costing is not done on a really proper basis it is an easier cost to handle than, say, plant obsolescence and intangible things of that kind. No firm, therefore, should experience any difficulty in allowing for this figure when settling prices and estimating profits."

Five firms out of the ten stated that they have embarked on no special economy campaign to offset the additional cost. They said, in effect: "We are already well organized; any points where substantial economies can be made have already been discovered."

The remaining five firms all mentioned that the paid holidays had moved them in some degree or other to make additional economies.

This Economy Will Pay for The Holiday

Some of the firms, as mentioned just now, insisted on better timekeeping. The most notable economy we came across, however, was in a tube-making concern employing about 400 hands. Here the management had completely overhauled its order system and process routine to cut out overtime. A saving of over £1,000 a year has been made.

"Our overtime was so erratic and spread out," an executive told us, "that while in time we might have tackled the problem it was certainly our decision to give fully paid holidays, and the cost of that decision, that prompted us to take definite action."

Every one of the ten firms agreed on the subject of health-benefit to employees that the paid holiday will give.

*This Committee was set up up last spring after the House of Commons had passed the second reading of a Labour Party Bill (introduced by the late Mr. Guy Rowson) to provide an annual holiday of eight consecutive days with pay.

Members of the Committee, whose chairman is Lord Amulree, are now considering their report and discussing what their recommendations shall be.

This will obviously take some time yet, and, in any case, it will be completed too late to have much effect on the holiday position this year.

No 'STAGGERED' Holidays . . . *Yet,* School Tradition is the Barrier

THE question of "staggered" holidays is a very important one to industry. Firms making all sorts of goods that cater for the holiday trade, as well as the railway companies, hotels, and boarding-houses want the holiday period spread out into the months preceding and following August.

On the railways alone the six weeks, with August as a centre, bring something near to chaos. Last August for example approximately 20,000,000 more passengers travelled compared with the May or October. No less than 40,000 extra trains were needed to transport long-distance travellers to holiday resorts.

The congestion on the roads is also at its peak during August. The road transport companies cannot cope with it.

This year there will be at least a million more people with paid holidays; the majority of them will want to travel in August.

There is every inducement for holiday makers to travel during late May and June, also in September and October. Prices for accommodation, and practically everything, are lower and convenience is infinitely greater.

But all the firms we approached cited the one great snag: *The fixed practice of the schools to give holidays in August.*

By far the majority of men employed in trade and industry are married, most of them have families. A high percentage of the young, single people employed have younger brothers or sisters at school.

(*Continued on page* 30)

Tackling The Thin End of a Big Market

Heavy vested interests barred the way to big-scale attack, so specialized campaign on a narrower front gave this firm its start

"Direct Mail backed by steady Press advertising has built our sales from zero to 1,500,000 units a week," says—

R. H. MEAD,

Director, Rappings Limited

In an interview

THE milk carton is becoming as familiar to-day as other forms of hygienic food containers, yet, at the end of five years pioneering work, we know we have taken only the first step into the potential markets for this product.

That we have built up the sales of our cartons to 1,500,000 a week and have opened 4,000 dairy accounts in the United Kingdom shows we have made definite progress. But when our new factory at Team Valley, Gateshead, is in full production we plan to sell 3,000,000 cartons a week. There is no reason, either, for regarding this as a maximum figure to aim at. We know the potential market is a number of times greater than 156,000,000 cartons a year.

These are, however, figures for the future. Let us deal now with the policies and plans which have brought us some success in our five years of pioneering.

The cartons are manufactured by Perga, Ltd., a subsidiary of Rappings, Ltd., an old-established company which has been making and selling many kinds of food wrappings since 1870. We act as a distribution and sales organization for Perga cartons.

The Snag: Capital Tied Up in Glass Bottles

It was my job, when production started in the summer of 1933, to organize and control distribution and sales. We realized we were tackling a difficult proposition, but, as our board discussions showed, all of us had faith in the new venture. None of us underestimated the weight of vested interest against the product.

All the big dairies, for example, had very big capital tied up in glass bottles and bottle washing and filling plant. They would not scrap that plant and use our cartons despite the hygienic, time- and labour-saving advantages and the fact that, ultimately, they would save money on the change. We also had against us suppliers of bottle-washing and filling machinery and bottle and cap makers.

These were serious adverse factors. On investigating and examining the position we saw that our approach must be to the small dairyman and producer-retailer. But to get *quantity* sales we needed to sell to the dairy wholesaler and allow him 10 per cent commission. Armed, therefore, with an impressive array of facts (qualities of hygiene, labour-, time- and cost-saving, business expansion, etc.) we started in June, 1933, to call on wholesalers.

The Wholesale Market Completely Barred Us

Three months later, without one order obtained, we admitted defeat of this strategy. We could made no headway at all. Everywhere we were met with blank refusal to stock cartons, even on sale or return basis. Wholesalers would not have them at any price. Many told us so rudely.

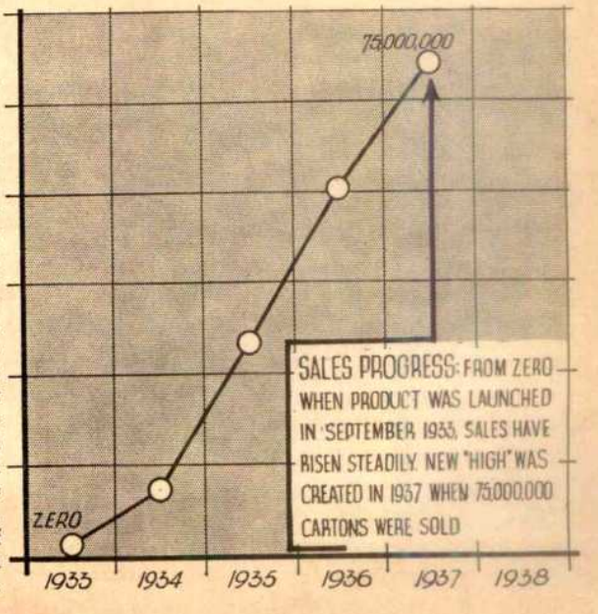
At a board meeting convened for the purpose, we reviewed the depressing experience. We knew the product was good, the claims made for it substantiated. The problem was to get these facts in front of the people who would really benefit from the use of cartons—the producer-retailers. We decided then to change our policy, to go for small quantity sales by attacking the users direct.

There were a number of courses open to us in setting about this task. We could use travelling salesmen; we could back this up with trade press and national advertising; we could work on the consumer end of the market and attempt through the public to force the use of cartons; we could use direct mail to tell the story; we could appoint agents and let them do the selling; we could plan a "mixed" campaign in which we used, to some extent, all these methods.

We chose a scheme of direct mail backed up with trade press advertising, and for these reasons: (1) it was a means of making immediately an appeal to thousands of prospects; (2) the story we had to tell lent itself to direct mail technique; (3) the economic factor was favourable; (4) we could offer better terms to buyers, giving them in a reduction of price the commissions that we intended paying the wholesalers.

We rejected the sales staff idea because the field could not be covered intensely unless an uneconomic number of men were employed. It would also take too long and cost too much. That, too, was the fault against trying to "sell" the public first. And the scheme for appointing agents did not lend itself to rapid development. With the usual agents—wholesale, etc.—hostile, it would be a slow and difficult task to get trained and organized substitutes.

The first mailing plan we prepared consisted of letter, double-page folder printed in two colours and a prepaid reply card. The letter introduced the product and used a factual argument. It talked about the qualities of hygiene, the saving in time, labour and expense, how the housewife appreciated the new container, the fact that the lightness and compactness of the cartons enabled



the milk roundsman to deliver more milk, that business expanded with the use of such up-to-date, sales-getting containers, printed in colour with each producer-retailer's name, address, slogan and advertising matter.

The letter also tackled the problem of sealing. It pointed out that small hand sealing tools for shop trade and inexpensive filling and sealing machines for bigger outputs were available.

This is typical of the contents of all letters we have used. Mailings have been carried out about once every three months. This gives time to get response and to use three follow-up letters which are sent out at intervals of 7, 14 and 20 days. Prospects that reply are dealt with by (a) routine letters that give in detail prices, conditions, delivery dates and similar information that an interested person needs; (b) "personal" letters, which I write especially for the prospect and (c) a personal call when I think it is necessary to clinch an order.

But, as you see, what we say in our letters is the vital factor. We have been painstaking to use every sound selling point available and to support all claims with examples and established facts. We have strictly avoided exaggeration in any part of this propaganda.

All folders support with pictures the points made in the letters. Sales talk is down to a specific basis and supported with facts. That has been an unalterable part of our policy with folders as with letters. For instance, one headline we have used is "Six Sound Reasons For Supplying Milk In Perga Cartons". We have not just stated these reasons but have explained the "why" and "how" of them.

Another point is that of backing up facts and figures with testimonials from satisfied users. This well tried policy is effective in a market where business men are essentially "hard boiled" and have more faith in the experiences of their members than in the figures and theories that come from an office.

For
Trend of Trade for April
Business Activity Figures
Your Guide to Markets
Turn to section in colour beginning on Page 40 of this issue

Our mailing list has been compiled with the help of a firm specializing in this work. We have, through investigations, found that there are 100,000 potential users of cartons in this country. That is the market which we aim to capture. Of this total we are disregarding for the present 50,000 who are very small farmers or producers of inferior grades of milk.

For our first shot we prepared a list of 8,000 names. We got 450 orders from that initial effort—a very good result, we think. In any case it was 450 better than were results of the previous three months' hard work.

Backing up this mail attack we planned an advertising campaign. Our policy here was to get over the name of the carton and the idea that cartons could be used by small or big retailer-producers alike.

To get at our specific market we used farming papers. But here again we made an initial mistake. We took full pages and other big spaces. One of our objects was to draw inquiries which we could follow up with a mail attack. True, we got results but found the cost was uneconomical. To keep up a big space campaign meant cutting down drastically the number of insertions, which was not good policy. Our aim was to keep Perga cartons continuously in the mind of the market.

Space sizes were therefore cut to six inch single and four inch double columns. That enabled us to advertise regularly week after week in all the

(*Continued on page 48*)

'Puss in Boost' Steps Sales Up *To Higher Levels . . .*

A 'character' theme injected into the advertising gave a vital touch to Coalite's sales curves. Mr. Therm, Master O-Kay, and other well-known advertising figures have worked similarly for their masters. The now famous cats have come and conquered in six months . . . Why? . . . We explain here

WHEN a firm's advertising campaign creates discussion among the public and provokes a fan mail a manufacturer ought to rest happy in the knowledge that his product *has arrived*. Once this stamp of popularity found expression on the music halls: there are no halls to-day but the principle holds good. For example, the fact that family groups in all parts of the country write letters to the company about the Coalite cats, confirms the popularity of the advertising.

The substantial sales increases recorded since the start of the campaign is proof of the point, but success does not end there. The interest developed is helping to get knowledge of Coalite into the public's sub-conscious mind thus preparing the way for future sales.

The campaign has been more than an area "test" although it has been confined mainly to Greater London and the Home Counties. The policy has been to *concentrate* the advertising in the area where distribution is the strongest.

This is an important point and one of the reasons why advertising money has not been spent on a national scale this time.

The need for well organized distribution is based on the belief that customers will not be troubled to keep asking unsuccessfully for a product. It is thought that more harm than good is done if a dealer is asked for the goods and admits that he does not stock them. Annoyance is caused the prospective customer and the value of the advertising is dissipated.

The policy of concentration of effort has also another effect: it makes a deeper impression on the market than does, say, a similar amount of advertising spread over a larger field. For example, in drawing up the original campaign plans last August the manufacturers of Coalite planned to spend a certain sum during the September-to-March period. That spending was confined to the London and Home Counties area but on re-examination of plans it was decided that the *intensity* of the campaign was not sufficient.

Continuity as well as concentration was desired so the schedule was "shuttered". In the September-to-Christmas period it was decided to spend the money that would have been spread over to March. Then, in

The Coalite Cats have provoked a 'Fan' Mail

December, it was decided to continue the campaign to March. This was in keeping with the policy of continuity and concentration. It meant, too, that total expenditure on advertising was nearly double that sum originally scheduled for this six months campaign.

At this point too, the success of the "cats campaign" justified, in itself, increased appropriation. The cats gave the advertising a style completely different from any used before.

No doubt manufacturers have thought of creating some representative figure and it is certain that numbers of firms could do so with profit. The Coalite cats were not "thought up" in that style. They made their first appearance on the cover of a menu card at a Coalite luncheon and met with a very enthusiastic reception. They were shown sitting with their two kittens before a Coalite fire which the "gentleman cat" described as "B—— hot" and was reprimanded by the "lady cat" for using bad language in front of the children.

This version had to be slightly censored when the cats were used in the advertising. Since then many new humorous situations have been developed.

The question arises: why have they been so successful? The answer lies in the quality of the drawings (which are the work of Dowd, the *Punch* artist), the aptness of the situations depicted and the humorous copy used. There is, too, the point that the cats are in "character" when seated around a fire. Everyone knows a cat's love of the warm hearth of some fireside spot. The Coalite cats, therefore, are *sympathetic* characters. As such it is understandable how they have caught the public fancy and why they have got a "fan-mail".

Space was taken in 162 newspapers for the campaign. London was covered through *The Star, Evening News* and *Evening Standard*. The Home Counties area stretched from the South coast to Northampton. Spaces, 11 in. by 3 columns, were taken in all the leading local newspapers. For the greater London area two groups of newspapers were used: *Greater London's Greater Press* and *London Suburban Group*.

Support to the newspaper campaign was given by advertising at 4 p.m. on Tuesdays and Thursday from Radio Luxemburg. A fifteen minutes programme of music and announcements was used.

Dealers throughout the area were kept informed by letters of the advertising plans. In one scheme, for example, stickers were sent out announcing the radio programme. Dealers were asked to place these stickers on all letters going out from their offices. Window display material has also been provided retailers.

Over 50 Per Cent More Business *From Old Customers . . .*

This concerns a retail shop chain; the problem was to turn spasmodic customers into more regular buyers. It was done by carefully prepared direct mail. Here is the plan—

MANY firms are so anxious about developing new markets that they fail to get anything like the maximum business out of their existing markets. Yet tests show that, on average, the cost of getting more business from old customers is less than that of getting sales among new customers.

A good example of what can be done is to be found in the case of a famous London firm selling men's wear. Mr. J. W. W. Cassels, Advertising Manager of Moss Bros., Ltd., in an address said that their scheme towards selling more to existing customers was started by an analysis of purchases. They found that roughly 40 per cent of their business came from established customers.

No Faults Existed in the Firm's Service

This was a comparatively small proportion and the firm set out to find the reason why. They started by writing to some thousands of customers who had not bought goods from them for two years. The letters asked "Why"? and if there were any complaints. A stamped and addressed envelope was enclosed to make reply easy.

Less than ten of those who answered had a complaint to make. Most of the others replied, in effect: "I have not wanted anything".

From this showing it was clear that the firm's goods and services were up to standard. It was also clear that although customers might wear an overcoat or a suit for two years they certainly did not wear socks, pants, shirts, collars, ties and other clothing of this kind throughout this period without having to restock. The only conclusion to be reached from such facts was this: the firm had failed to keep themselves before the notice of these customers.

From this point the firm decided to use direct mail to keep in touch. At first a very simple practice of mailing price lists was adopted. In a year the proportion of business coming through old customers rose to 45 per cent, an indication that the company were on the right track.

Nonetheless, the percentage was still too small. In thinking the matter over, the firm concluded that if the customer did not want any goods when the list arrived, he forgot about it. Thus, the logical development was to prepare a mailing scheme which would make the customer keep the firm in mind.

Out of this thought grew the idea of trying to *interest the customer* rather than merely *advertise the firm*.

Obviously, mailed advertising matter of this class would cost a good deal more than just price lists—say, two or three times as much. Letters were first sent out and were given a flippant note. Often no effort was made to sell goods. The letters were later backed up with booklets which, like the letters, did not stick strictly to business but, at the same time, did contain the firm's price list.

Following this attack, the percentage of old customers' business rose to the halfway mark. And the success convinced the firm that they could get even better results by more intensive effort. From this point on they have spent money willingly on folders, booklets, letters and other mailing pieces. They have taken pains to get the best printing, writing and art work in producing these shots. Customers responded by writing to ask for more copies of the

'By Your Vans You Shall be Known . . .'

Designed to give the utmost publicity value this special body has been directly responsible for opening many new accounts

matter sent to them. They began to pass the pieces on to their friends.

Since this practice has been put into effect the proportion of old customers' business has risen a good way beyond the 50 per cent mark—and is still going up. At the same time, there has been no falling off in the number of new customers. Indeed, the opposite is true, helped by the old customers who now show the mailed matter they receive to their friends.

In addition to this general scheme of keeping contact, the firm have developed a follow-up plan on specialized lines. For example, if a man buys a pair of riding breeches they contend he may be a likely customer for riding boots and so on. In most cases a straightforward letter stating this view results in sales.

IDEAS For Busy Sales Managers . .

Co-operative Commission Scheme Boosts Orders 25 per cent

A MANUFACTURER of motor-car accessories has stimulated sales by arranging with garage owners to give a commission on goods sold by service-men and other staff. As much as 300 per cent increase has taken place in some dealers' sales since the scheme was started.

The problem was to overcome the indifference of garage staffs to the sale of accessories. Investigation showed that many dealers had on hand stock that had been bought two years or more. Re-ordering had almost vanished with many accounts. On the other hand, where dealers were selling steadily it was found that a commission incentive was usually employed.

These findings decided the manufacturer to "pep up" garage owners with a special commission scheme. He made arrangements with them to give a five per cent commission to any of the staff making a sale of an accessory. Half of this commission was paid by the garage owner, half by the manufacturer.

Clerical Work was Reduced to a Minimum

The idea was an immediate success and sales went up rapidly. But dealers complained that the book-keeping involved was troublesome. It was then agreed to pay commission every three months, with a special bonus for the top salesmen. Forms were provided for keeping the accounts. One sheet listed the stock, price, name of salesman, whether cash or credit sale, together with date and number and signature of the checker of the sale. This sheet, therefore, was not only a record of total sales but a stock indicator. A glance at it showed which lines were selling well and when re-ordering was needed. It also revealed those products which were "sticking" and called for special sales effort.

Sales Analysed and Visible at a Glance

The second sheet recorded each man's sales. It showed in analysed form the total money value of sales and the commission due. Any falling off in sales could be seen at a glance and the attention of the salesman drawn to it.

The total business resulting from this scheme in the past three months is such that production is now at full scale as compared with three-quarter time working in last November.

•

A New Interchangeable Letter Portable Neon Sign

A NEW type of neon lighting, where each letter of a sign is an individual and interchangeable unit, is among the latest sales aids. The outstanding features of the "Neonames" sign—as it is called—are: (1) running cost is less than that of a 100-watt lamp; (2) letters are available in various colours; (3) letters can be added as required; (4) each outfit is given a two years' guarantee which carries with it a monthly "change of letters" service.

The letters are plugged into an opaque holder which can be of any size. The holder itself is illuminated and across the front can be arranged another message in block, not neon, letters. This forms a combination of neon and ordinary sign. Both sets of letters can be rearranged as often as necessary for a fresh appeal.

The guarantee covers service for keeping the signs in good order as well as the monthly change of letters.

•

Daily 'Boomerang' Flights Now Allow Quick Business Trips

EXECUTIVES who have to pay urgent calls to Continental cities can now use the "there and back in a day" flights which are to-day part of the Imperial Airways schedule.

Business men can leave Croydon by early morning air-liners, call at Paris and Brussels and be back in London the same evening. It is even possible to fly to such cities as Frankfurt, have two hours for business there and fly back to Croydon the same night.

These flights are possible on the ordinary air-liner schedules. Special chartered planes for trips taking any length of time can always be arranged.

This Stores Exhibition Made a *5-Way Sales Aid*

THERE are often times when the sales and publicity managers of a progressive store can amalgamate complementary lines and produce a highly effective "combined" sales promotion scheme in the form of an internal exhibition. An excellent example of this was recently provided by Simpson (Piccadilly), Ltd.

In this instance the manufacturers, G. B. Equipments, Ltd., approached the dealer—Simpson's Photographic Department—to stock and sell their new home talkie cinema. Simpson's realized the potentialities of the apparatus and decided that the ideal setting would be a drawing-room. Betty Joel, Ltd., were approached and asked if they would be willing to lend furniture for a specially constructed room so that public demonstrations could be given. Not only did Betty Joel's agree to furnish the room but they built special furniture.

Photo Sampling Plan

Simpson's, having decided to devote a whole floor solely for exhibition purposes, next arranged to fill the remaining space with a concurrent show of the transparent films of Dufay-Chromex, Ltd. The latter, being a new firm, anxious for the public to see samples, conceived the idea of giving away a specimen photograph to every Simpson customer. This had the effect of bringing the customer into the store on two separate occasions, once to sit for the photograph, and a second time to collect it.

As an additional attraction, Dufay-Chromex asked the photographer, Mr. John Everard, who specializes in taking photographs with their films, to show his work. By a coincidence, Mr. Everard was having a book published by George Routledge & Sons, Ltd., who agreed to supply copies of the book and a salesgirl.

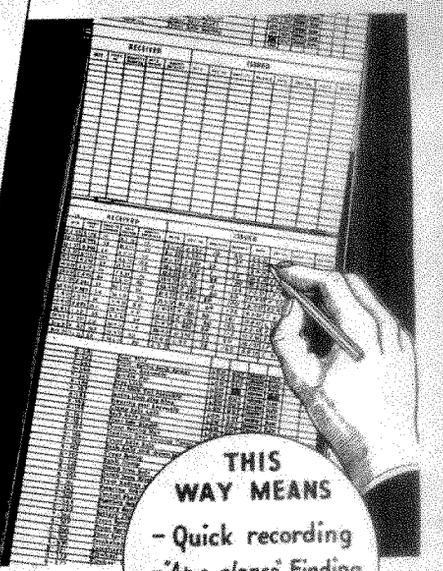
Total Attendance, 5,000

Miss Diana Wynyard, the actress, was present at the opening, and many celebrities afterwards visited the two exhibitions which were open for two months. During this period about 2,000 people viewed the talkies, despite the fact that the maximum seating accommodation was 12 to 14 per showing. More than 4,000 people had their photographs taken by Dufay-Chromex and the two exhibitions drew a total attendance of approximately 5,000.

As a point of interest, the Press were advised constantly of the exhibitions and mentions were received in about 45 papers, including national papers and London evening papers.

THIS WAY MEANS
- Hours Burying
- Hours Finding
- Hours of collating

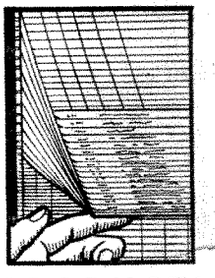
TWO ways of GETTING FACTS *Which is yours?*



THIS WAY MEANS
- Quick recording
- 'At-a-glance' Finding
- Visible collated Facts

Facts "buried" in books and ledgers waste time —they delay decisions and slow down the action of everyone in a business or department. Facts must be visible. Fifty or a hundred times a day clerks, typists and executives refer to files—you can save minutes on every reference if you put the answers to view with Shannon Visible Records. Visible Records yield key facts—collated and signalled—instantly. They promote rapid decisions and eliminate the risk and expensive guesswork, searching, errors, and delays.

FLICK- *and you see the* FACTS



STOCK CONTROL

Shannon Visible Records prevent understocking, avoid overstocking, and signal "obsolete stock" etc.

PRODUCTION CONTROL

Shannon Visible Records show job location, number of operations, work done, and graphically spotlight "strong" and "weak" spots in production.

ACCOUNTS CONTROL

Shannon Visible Records tell at a glance overdue—last payments—number of applications—special applications, credit limits, etc.

SALES RECORDS

Shannon Visible Records show instantly which lines are moving, last sale, salesman's last call, individual turnover—when quota was reached, etc.

BUYING RECORDS

Shannon Visible Records show daily movements of supplies—bill numbers, "On Order", "Overdue", of "Short", etc.

The Shannon Limited

VISIBLE RECORDS

A Shannon-ized Office is a Profit-Earning Office

● **HOW MUCH ARE "BURIED FACTS" COSTING YOU? READ THIS BOOK AND LEARN HOW TO PREVENT THE COSTLY WASTE**

"Lift the Lid off Your Business"—a 24-page booklet describing the endless possibilities of Shannon Visible Records in office and works. Sent free to executives on receipt of business card or letter-heading.

THE SHANNON LTD., IMPERIAL HOUSE, 15, 17 & 19 KINGSWAY, LONDON, W.C.2

Birmingham - Bristol - Manchester - Liverpool - Glasgow - Newcastle-on-Tyne

4532

This Lightweight 5½-Tonner Does Good Work at Low Cost

'BUSINESS' Special Road Test No. 4. . . . . *Albion* 50 *cwt., Model* 127

By
RICHARD TWELVETREES
A.M.I.Mech.E.
Road Transport Editor
of BUSINESS

EVER since transport operating conditions have encouraged the wider use of lightweight vehicles Albion Motors, Ltd., of Glasgow, have made a special study of truck engineering to eliminate all superfluous material.

They were early on the market with a genuine 4-tonner to qualify for the 50-cwt. taxation class, and now, without any addition to the unladen weight, their latest Model 127 makes possible 5½-ton payloads.

It sounds rather a tall order in some ways, but the fact remains the 5½-ton Albions are doing splendid work very economically.

Where These BUSINESS Tests Are Especially Useful

There is a good deal of reticence among satisfied users in stating candidly that this or that vehicle is a first-class proposition. Competitors, they say, may get wise and follow the example.

That is just where this particular type of test report helps, by bringing out certain facts which astute business men generally keep to themselves.

Albions, whom I have always found ready to listen when candid opinions are expressed about their products, let me have a 5½-tonner for trial under working conditions, and here is my unbiased report:

We called at Red Lane Brick Works, Oxted, Surrey, to collect a 5½-ton load of hand-made bricks, a speciality of the firm.

The long wheelbase, drop-sided Albion standard truck gives a body length of 15 ft. 6 in., so the load rested snug and low on the platform, which is sturdy and well supported on rigid cross-bearers.

"If you can drop the load at West Wickham without going far off the test course, it will suit me nicely," said the brickfield proprietor, "and I should like to come along to see how the Albion works."

This model Albion is specially designed to come within the 50 cwt. taxation class while permitting an actual payload of 5½ tons. It is a good example of the research and ingenuity which the manufacturers have put into design so as to provide the user with a vehicle that yields the highest possible performance with the greatest economy

No Self-Starter, But This Is No Hindrance

That suited me, so I asked the driver to start the engine. That meant cranking because, with a strong drop-sided body, the weight of electric starting apparatus would just turn the scale over 50 cwt. and involve higher taxation.

But the omission is not serious in the case of vehicles used almost entirely for long hauls involving but few stops *en route*. Moreover, the Albion engine starts readily on the second pull, as it is equipped with an "easy-start" carburettor and coil ignition.

Whether the majority of transport users realize it or not, one of the big secrets in successful haulage, or delivery work for that matter, is giving the drivers really comfortable vehicles to handle.

Driver-Comfort is Big Factor in Economy

Mechanical efficiency and economy count for little unless a vehicle is designed for easy manipulation. An uncomfortable, tiring vehicle means that the driver becomes exhausted before the day is out, and then accidents, to say nothing of wasteful driving.

The first thing I was anxious to discover, therefore, was whether, in getting right down to the weight limit, the Albion designers had remembered the drivers.

On assuming the driving position, I just let my hands and feet move into perfectly natural positions to find whether the controls were well situated. They were; consequently one gets a feeling of confidence in the vehicle generally, which goes a long way to working economy.

Well ventilated and suitably upholstered, the cab accommodates three men. Wide sloping windscreen permits a clear view of the road, and, in fact, everything looked right for a good test run.

Good Mileage Without 'Thinning' The Mixture

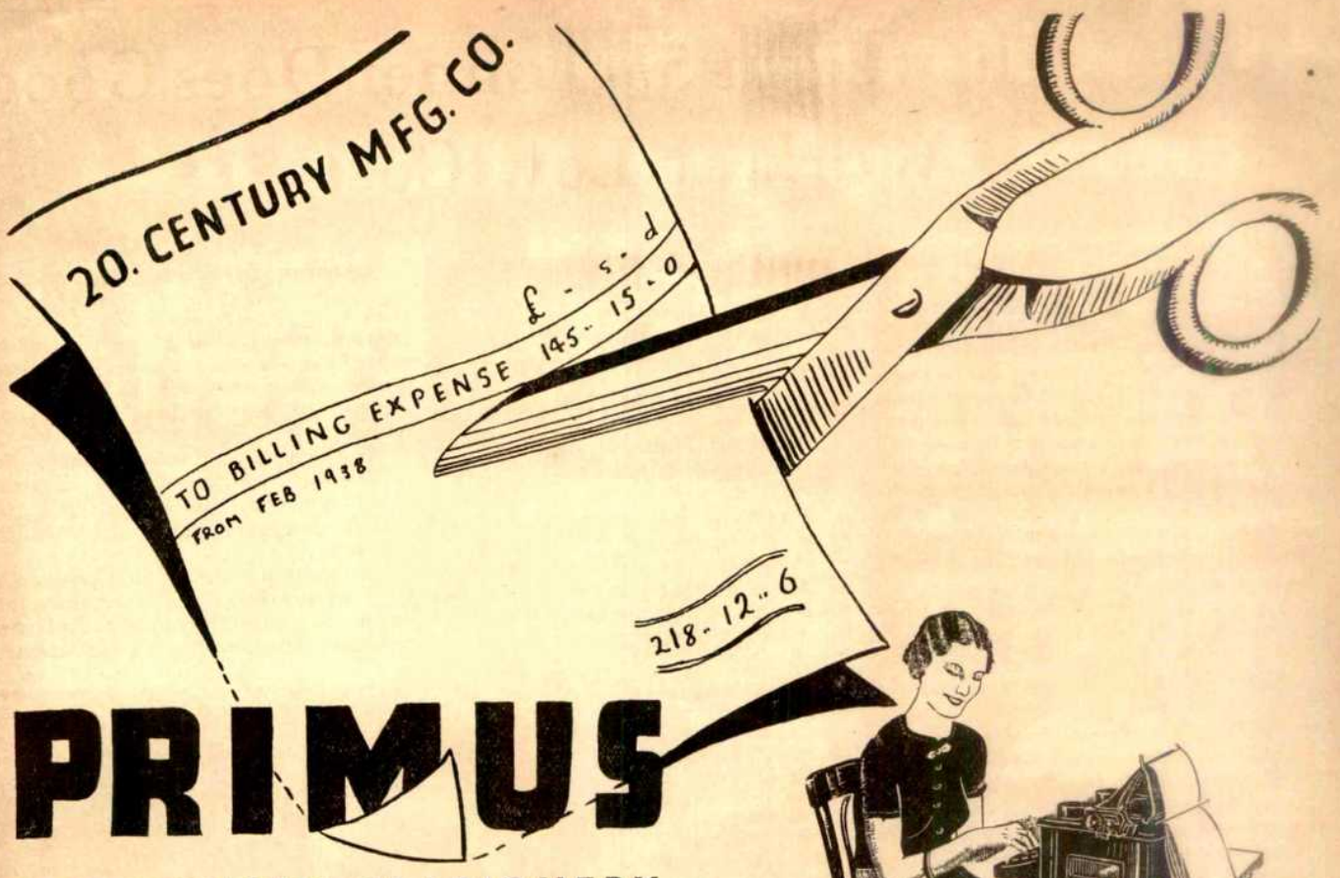
"Seems a nice job to me," remarked the brick merchant. "I wonder what she will do to the gallon." I wanted to know that, too, so we fixed the one-gallon test-tank and started along a fairly level road at 30 m.p.h.

As the four-cylinder engine develops a maximum output of 65 b.h.p. there was no need to work under full throttle at all, except where third-gear hills were encountered. The chassis transmission acts smoothly and the final reduction is just right for easy top-gear travel. We covered 12¾ miles before the test gallon was consumed, equivalent to 70.4 ton miles per gallon.

That result certainly supported the claims advanced by Albions for genuine

(*Continued on page* 38)

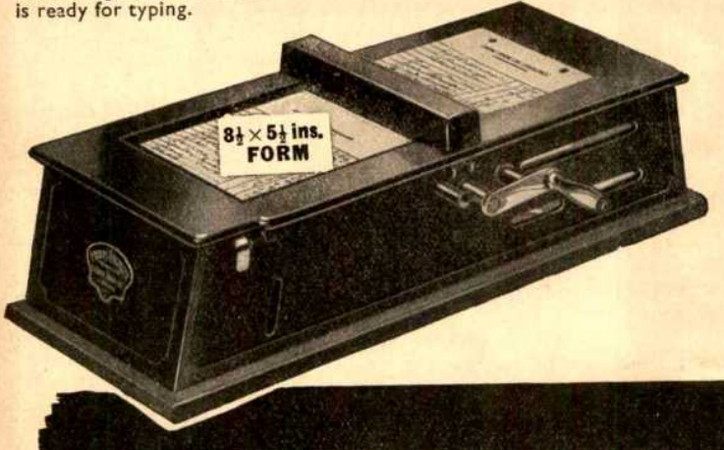
Comfort of the driver is a factor no vehicle owner should neglect. A driver who becomes fatigued towards the end of the day because of uncomfortable cab or 'difficult' controls is a potential source of accidents and generally inefficient running. "In this Albion," says Mr. Twelvetrees, "I found the cab-comfort and convenience of controls to be ideal"



PRIMUS

CONTINUOUS STATIONERY AUTOMATICALLY CLIPS OFF ONE THIRD OF YOUR BILLING COSTS

That is a definite fact. One-third at least of your stenographer's time and energy is spent in preparing forms for insertion in the typewriter. On all repetitive work like billing, invoicing, works orders, purchase-orders, etc., perfect alignment and perfect duplication are required. PRIMUS Stationery assures this. The forms are set in continuity. All the stenographer has to do is flick her wrist and each set of forms is ready for typing.



The PRIMUS attachment, as supplied by us, fits any typewriter and facilitates the smooth flow of continuous forms. It allows the machine at a moment's notice to be used for either billing or ordinary correspondence work.

PRIMUS

The PRIMUS Autographic Register is designed to simplify the work of writing documents by hand. It is so constructed as to allow a number of duplicates to be made at one writing and at the same time automatically retains a check-duplicate under lock and key. It is used on tasks such as:

Job Progress	Warehouse Notes
Consignment Notes	Repair Orders
Requisitions	Cash Sales
etc.	etc.

CARTER-DAVIS
LIMITED

QUEEN ELIZABETH STREET. S.E.1

Phone: HOP. 0204-5-6

Do You Plan and Equip Your Office to Secure *Employees' GOODWILL?*

By F. T. POULTON

FAR too often we see the planning of offices purely from the *machine* point of view instead of, as should be the case, from the ***human*** point of view.

Manufacturers of machines, whether for office work or factory production, can go on designing more and more capable equipment, but over and above it all the human element still remains supreme.

Human Consideration More Vital Than Ever To-day

In fact, contrary to popular thought, the importance of the human operator increases with the increased delicacy and scope of the machine. It is a more responsible job now successfully and unfailingly to operate the £1,000 machine at the speed of modern requirements than it was years ago to use the more primitive appliances costing not a twentieth of that sum.

Mistakes and under-capacity work on modern machines are very costly. Offices should therefore be planned and run so that the risk of human failure due to insufficient training, fatigue or the dislike of conditions is reduced to an absolute minimum.

In the very large office, planning is much easier than in the average size office of the average business. I will therefore avoid reference to the big office; it is in the average office that more attention to the human side is needed.

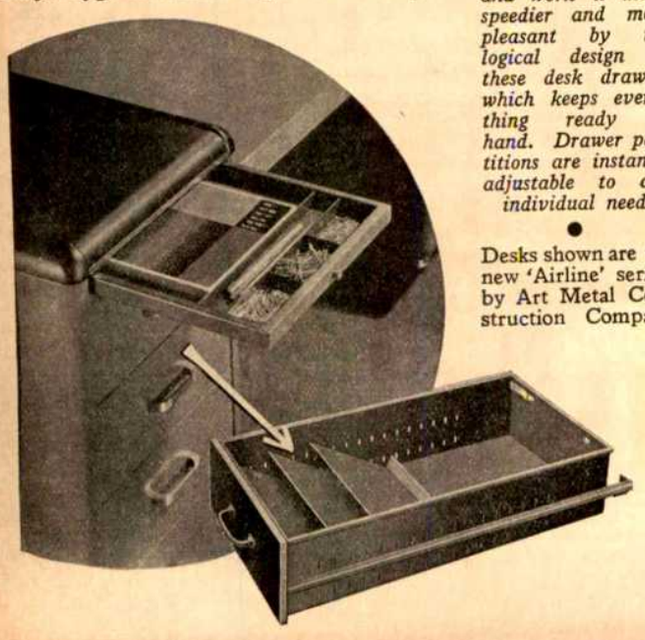
The suggestions I offer are made out of many years' experience and observation in the offices of a wide variety of firms.

Above all, I would avoid the sergeant-major type of woman supervisor in *any* section of the office. This type of "control", while it may enable the office manager to put successful-looking figures before the management, actually results in indirect costs and petty inefficiency that are out of all proportion to the apparent benefits gained.

The head of a famous manufacturing firm once said in a lecture: "You can never get really first-class work out of people unless they *like* coming to their jobs every morning." There is a lot of truth in that. In the case of some women employees to whom their jobs are not the most important things in life, it would perhaps be difficult to make them really fond of their work. It is possible, however, to give conditions so that they certainly do not *dislike* their work.

I therefore advocate a firm control (a loose control is often not respected), but one that is at the same time broad-minded and human. For this reason I

Comfort and convenience are both provided by this handsome desk. Note the island pedestals which allow more foot room and permit the desk to be very easily moved when required. The rigid typewriter support puts the machine conveniently at hand yet keeps it off the main working surface. When not wanted the machine can easily be swung into the dust-proof cupboard below



Left: *Time and tempers are saved and work is made speedier and more pleasant by the logical design of these desk drawers which keeps everything ready to hand. Drawer partitions are instantly adjustable to any individual needs*

●

Desks shown are the new 'Airline' series, by Art Metal Construction Company

The roominess of this office gives ideal working conditions. The filing cabinets are against the wall, away from main gangways so that file-clerks and passers-by do not hinder one another. The arrow indicates the special lights placed scientifically to provide shadowless lighting over the files

Your Car Being of Paramount Importance, As an Item of Your *Selling Equipment* . . . . . .

Why be content with anything less efficient than a FORD "TEN" (*Engine develops over* 30 *b.h.p., but taxed only* £7 . 10s. *per annum in Great Britain*)?

You can spend far more than its price, £150 for the Saloon, £162 . 10s. for the Double-Entrance Saloon (illustrated) or Touring Car, without getting nearly so good a car.

Judged whether on performance, comfort-provision, pleasure of handling, resistance to bad weather, flexibility in heavy traffic, or ability to maintain a brisk average on long runs, without leaving you tired and limp at the end of a really busy day, the Ford "Ten" is ideal for the service of the salesman, or sales executive.

It looks good; it is. Examine it, inside and out. Compare it with cars costing considerably more. Test it by any conceivable criterion, and it will still justify its nickname of "the luxury-car for the economically inclined."

Catalogue on Application or from Ford Dealers throughout the British Isles. All prices at Works.

FORD "TEN" DOUBLE-ENTRANCE SALOON **£162 · 10s.**

● *Overseas Deliveries of any Ford Car will be arranged on request, by any Ford Dealer, or through our London Showrooms.*

FORD MOTOR COMPANY LIMITED, DAGENHAM, ESSEX. LONDON SHOWROOMS: 88 REGENT STREET, W.1.

consider that male control is preferable. But the man must know his job; he must know it from the smallest detail upward, or he will find that a lot of little things will get by his notice. For a capable man, women I consider, will work harder and more conscientiously.

Office Manager Must be More than a Technician

To get the right human control is therefore of the first importance. You need firmness, understanding and technical ability. So take much trouble in picking your office manager. Do not install him merely because he is a good accountant, secretary or other professional entity. Pick a man who, besides knowing his work, can develop goodwill among those under him.

The right man will then attend to that other vitally important thing: the physical conditions of the office.

An enormous amount of inefficiency exists solely because of rank ignorance in regard to the human needs of office workers or of silly prejudice against obvious needs. I have seen huge sums of money spent on fine, modern equipment, while at the same time I have seen a lack of understanding and common sense prevent such equipment from being used effectively.

In one office that I have in mind there was a certain typing pool: four operators who did routine typing (including letters for minor executives) for six departments.

Now it happened that this particular office (laid out on the "open" office plan) had a very nice bay at one end. An ideal location for routine machine workers, argued the office manager. He therefore put here the four typists, alongside two operators of book-keeping machines.

To the casual observer this arrangement looked all right, but the noise in that bay was nerve-shattering. The clacking of four typewriters and two book-keeping machines was bad enough in itself, but the shape of the bay collected all that sound and reflected it, accentuating it to a considerable degree.

The result was a very sharp fatigue incidence quite early in the day. Absenteeism was frequent through headaches, and work fell off rapidly towards the end of each day. There was also a high labour turnover in these two sections, a very expensive and undesirable factor these days, since good operators are hard to get.

'Wanderers' About the Office Disturb Work

Another bad point about this arrangement was that the typing pool happened to be at one end of the office while the main door was at the other. People bringing work for typing had to walk the whole length of the general office and to push in among the book-keepers, who had to move their trays of ledger-cards each time.

When people are working at high pressure on specialized jobs, you cannot keep them happy and contented if they are constantly subjected to annoying interruptions from people from another department.

I mentioned to this office manager the installation of sound-proof partitions between the typists and the book-keepers, but he cavilled at the expense. He would not even consider putting it up to the management when I pointed out the obviously higher expense of labour turnover, absenteeism and daily falling of the work curve!

Even this Compromise Barrier Helped

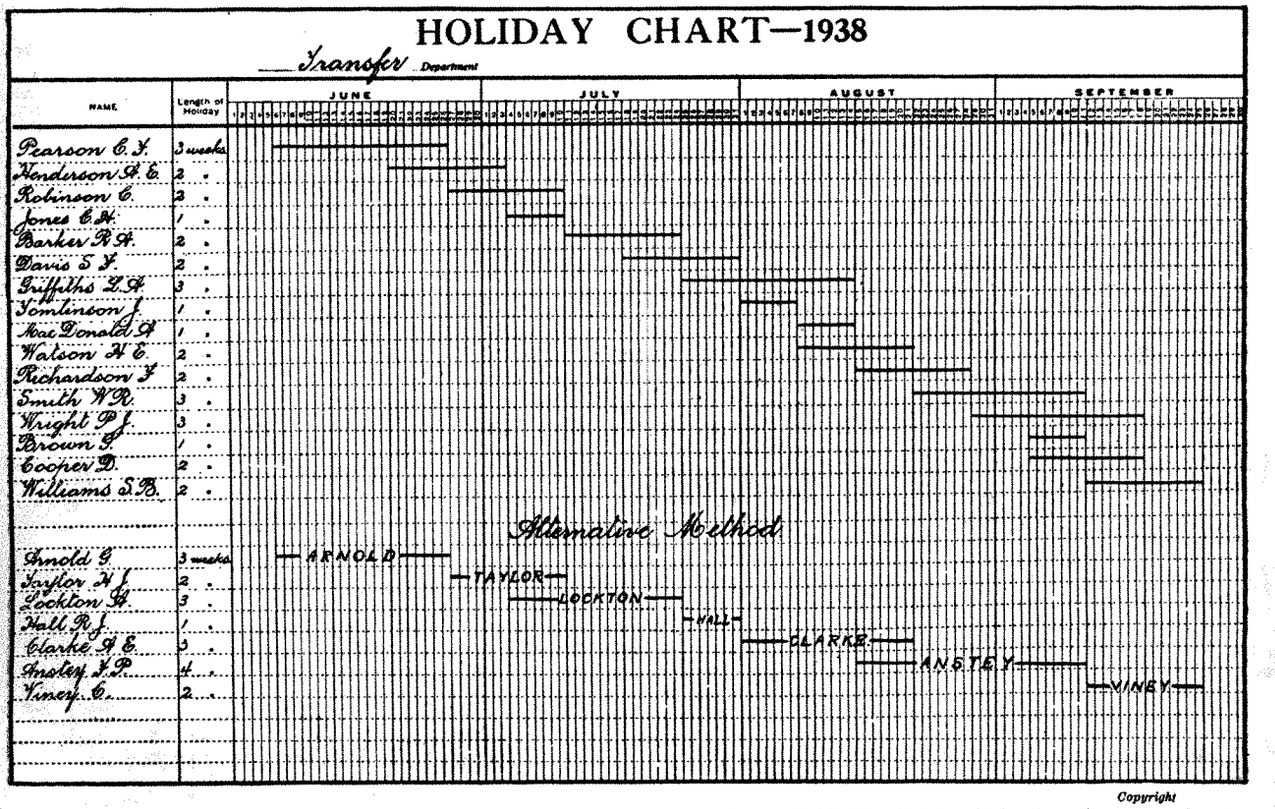
However, he did compromise by rearranging the layout so that a partition of filing cabinets was put between the two sections. This certainly helped a little by breaking up the sound and by putting a physical barrier between the two sections. Visitors to the typing pool no longer had to pass so closely to the book-keepers and their work. The girls much appreciated the change.

I have found another prolific cause of headaches in the arrangement whereby machine operators work *facing* a large window.

In a certain Midland town where an outlook on to grass and green trees is a rarity, the manager of one office thought he had done a beneficial thing by installing book-keeping machines

(*Continued on page* 30)

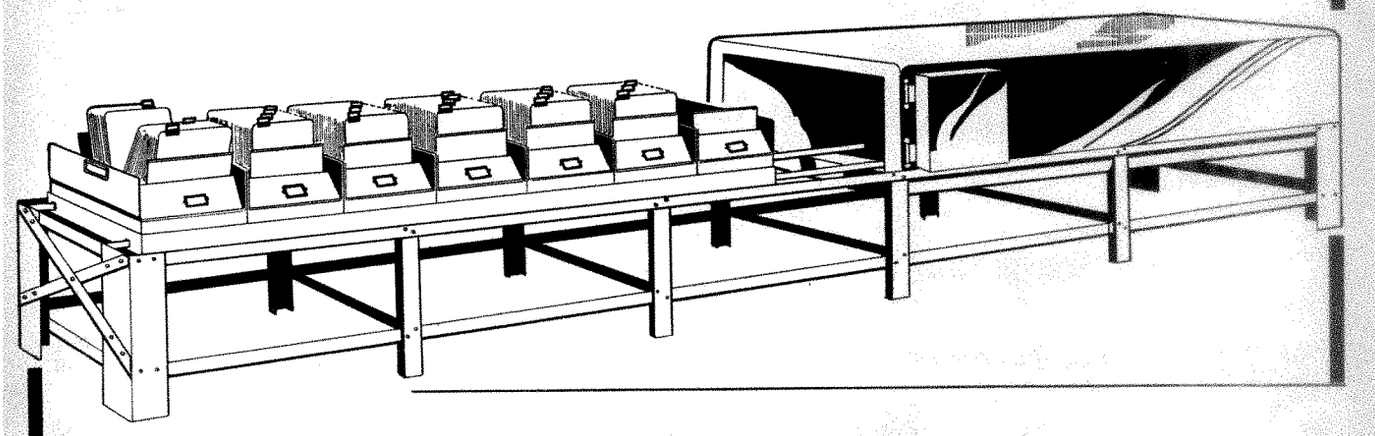
At-a-Glance Control of Your Staff Holiday Schedule



Copyright

These charts enable you to keep a clear, visual check on staff holidays. Weeks are divided by slightly thicker lines (not very clear in this small reproduction) and months by red lines. Sheets measure 26½ by 22 inches and are supplied to cover the year in two periods, Jan.-June and July-Dec., with space for 54 names. Price is one shilling per two sheets, from Wightman Mountain Ltd., Artillery House, Artillery Row, Westminster, S.W.1

The COPE-CHAT SPEEDRAIL POSTING UNIT



Solves FOUR Machine Accounting Problems

1. THE PROBLEM OF SPEED

Speedrail solves the speed problem by centralising thousands of accounts at the operator's finger-tips. All waste movement is abolished, and 100 per cent time spent on actual posting operations. A slight touch of the hand brings any tray into correct posting position.

2. THE PROBLEM OF REFERENCE

Speedrail solves the problem of reference, as all the accounts are fully displayed in the best form for speedy reference without interrupting the machine operator in her work. Executives and others interested thus have their own work made easier.

3. THE PROBLEM OF HANDLING

Speedrail abolishes the handling of trays to or from a strongroom which may not be easily accessible —perhaps on another floor—and saves damage to walls, doors, and equipment, in addition to economising on labour.

4. THE PROBLEM OF SAFETY

Speedrail solves the safety problem because it has its own Safety Tunnel. One touch of the hand and in a few split seconds your accounts can have ample protection against fire. This fire protection equipment has been specially furnace tested, and shows a 30 per cent safety margin.

If you are interested in Machine Posting or any other problem connected with office or works methods and equipment we will be glad to have opportunities to be of service. Details gladly sent by return of post.

THE COPELAND-CHATTERSON CO., LTD.

Exchange House, Old Change, London, E.C.4. *Telephone City 2284 (4 lines)*

BRANCHES THROUGHOUT THE PROVINCES

SIMPLIFICATION . . . *How It Cuts Down Office Overheads*

A CASE occurred recently where the headquarters of a famous manufacturing concern moved into a block of new offices—one of the most modern buildings in London.

An overhaul of routine carried out to give the firm a "clean start" enabled a saving to be made in office costs that will amount to somewhere about £8,000 in the year.

Yet none of these savings was made by reducing activity or staff. This considerable gain was made solely by lopping off a lot of redundancies that had somehow or other grown into the routine during a period of years.

The executive responsible for the clean-up called it a campaign of simplification. And that, actually, is what it was.

Take, for example, one item—office forms. Unimportant as this may seem in an economy campaign reaching almost to five figures, it was at this very point that the stationery and printing accounts got a big relief. In a full year the saving will amount to more than £1,000.

In any big organization that is still growing, internal routine tends to expand, too: redundancies creep in unnoticed.

This firm, for instance, thought it quite necessary to have nearly 200 forms of various kinds. Some were as small as memo. pads, some as large as insurance policies. They were in all the primary colours and in dozens of shades. In many cases they were unrelated, but could not be told apart without close inspection. Dozens overlapped; many were quite unnecessary.

Campaign Boiled Down to Six-Point Attack

It was decided, therefore, to carry out a six-point policy of simplification; (1) cut the number of forms to a minimum and lay them out in the simplest style for efficient use; (2) centralize the control of designing and buying stationery and printed matter; (3) study all office jobs and devise means of doing them more easily and at lower expense; (4) get accurate costing of each department's work; (5) test all new equipment, such as book-keeping machines, for ability to do specific jobs at less cost in time and money; (6) carry out, to such detail as pencils, notebooks, rubbers, etc., the standardization of materials.

The fact that the 200 internal forms were reduced to 52 sounds simple, but it was not. Every executive, when questioned, had an answer as to why this or that form should be maintained. It was necessary to go to each with all forms concerning his department and to find out what information on these forms was vital.

The executive in charge of simplification was then able to weed out useless forms and group related information on one document that had hitherto been spread over, say, six. He then standardized sizes and colours.

This simplification added to efficiency in handling forms, lessened chances of error, and cut printing costs to a fraction.

Desks, typewriters, materials, and sundry supplies were also standardized. Every typist knows, for instance, just where to look in her own or her neighbour's desk for any type of job. There is no upset when one girl has to substitute for another.

Files and shelves, too, have been standardized in relation to the letters, forms, and documents they hold. This meant scrapping of all kinds of departmental filing cabinets and systems.

A check on all output in work and supplies has been introduced. For this purpose a special department has been formed under the control of the executive who carried out the scheme. All office supplies are debited against the department drawing them. The balance of each account is kept daily, so that a check on what is being used is always available. Much money is being saved here.

All new machines, such as typewriters, billing-machines, calculators, letter-opening or sealing machines, postal frankers, and so on, are bought through this department and are submitted to tests by the executive in charge. A machine is now bought only on proof that it brings an improvement in output and a lowering in costs.

Folders for Personnel Records

This idea avoids the use of loose forms and makes each Record self-contained

MANY firms use printed application forms in connection with the engagement of employees. The usual practice is to keep the filled-in forms filed in a sort of card index form.

This is quite a good plan, but a variation of it which makes this system more complete is used by a well-known carton manufacturing concern. The idea might prove interesting and helpful to other employment managers.

The basis of the plan is that the application form, instead of being just a separate sheet, is printed on the inside of a good quality filing folder.

This folder thus serves as the application form and a filing folder for all subsequent papers and records which need to be filed or kept in connection with each employee.

In this company employees may be engaged at any one of several points where the firm has branch factories and offices; it is necessary, therefore, for branches and head office to have a personnel record of each employee. The original is made out when a prospective employee applies for a job and is retained by the branch where the application is made.

When the applicant is accepted and put to work a copy of the application is typed on a new folder and is sent to the head office where it goes into the "master" personnel file in alphabetical order.

Records of all future transactions regarding each employee are in due course sent for insertion in this master folder which thus automatically becomes the combined file and dossier of the employee.

For example, when there is a change of salary or wage rate, a transfer or promotion, there are special forms for recording these changes. Copies of these forms are filed at the branch and at head office, so that all information is concentrated in the folder-record.

Letters sealed at 50 per Minute speed by using this machine

A SIMPLE machine, called "Quiklose", is now being sold to help speed up envelope sealing. By its use any office-boy can seal letters at a rate of 50 a minute.

The machine consists mainly of a dampened rubber roller above which is a strip of metal. Flaps of envelopes are slid on to the roller at the right-hand side and drawn forward. The metal strip holds the flap on the roller and thus all the gummed portion of the flap is moistened. The operator merely flicks the flap down. Envelopes so treated are placed on top of each other beside the machine. The flaps are so effectively moistened that a slight pressure on the pile by hand is sufficient to seal all envelopes completely.

The equipment can be used for any size envelopes. The price of the machine is 12s. 6d.

Versatile machine saves for smaller companies, too!

HANDLES ONE BIG JOB OR MANY SMALL ONES ACCORDING TO YOUR ACCOUNTING NEEDS

●

Read what a typical smaller business man says

"BY using our Remington '86' on Sales Ledgers, Bought Ledgers, Sales and Purchases Analyses, Wages, Receipts and Payments and Financial Control, we keep it busy every minute. And we get the same saving in time and work as large companies which use each machine for just one set of these records exclusively."

FITS PRESENT AND FUTURE NEEDS

This flexibility of Remington "86" places it within the range of even small companies. It also saves *all* users money over a period of years in this way—if and when your accounting requirements change, it is not necessary to rebuild or trade in your Model "86." A few simple adjustments, and you are all set, without the machine even leaving your office.

GET CASH PROOF OF SAVING

Each Model "86" is sold on a basis of reduced accounting costs, proved in advance by demonstrations. For facts regarding a free trial, phone our local office or write—

Accounting Machine Division,
Dept. J.J. 333.
REMINGTON TYPEWRITER COMPANY LIMITED,
100 Gracechurch Street, London, E.C.3.
(Branches in all Principal Cities)

Why waste time and work in your accounting? You, too, can have up-to-date, adequate figures, facts with which to guide your business. The electrified Remington Model "86" posts up to seven related records at one time.

NO OTHER MACHINE AT ANY PRICE GIVES YOU ALL THESE FEATURES

1. Complete electrification of *all* alphabet and numerical keys, and of carriage.
2. Complete flexibility of registers, providing extra accumulations without rebuilding or replacing machine. Additional registers limited only by length of carriage.
3. All registers visible for columnar accumulation and with cross computation. All registers equipped with direct subtraction, providing contra entries within specific column and instant correction of errors.
4. Automatic tabulation and interchangeable form bars.
5. Complete visibility of writing line, permitting easy checking of every entry.
6. Automatic line proof of each individual entry provides instant audit.
7. Independent control of each related form to be prepared simultaneously.
8. Uniform legibility of all records.

REMINGTON
ACCOUNTING MACHINES

BUSINESS EQUIPMENT REVIEW

Short-Run Duplicating? *This Machine Does It — With Long-run Economies*

SHORT-RUN duplicating is to-day recognized as one of the best means of saving time, money and labour in offices, factories and shops, but it is only recently that machines have been built to perform this vital function with an efficiency in keeping with modern practice. In the past, for instance, disorganization of ordinary long-run work made it uneconomical to switch an office printing machine over to short-run jobs. It has often been cheaper to do the work by hand or have it done outside.

Machine Can Do Typewriter Manifolding Work

Nowadays, however, there are machines built to solve short-run problems. One of the outstanding examples is the Fordigraph Rotary Reproducing Machine which I examined last month. It is an all-British precision machine made by Frank R. Ford Ltd., of Birmingham. Besides functioning as an ordinary reproducer it can be used for manifolding work which you now do on a typewriter.

Some of the outstanding points about the machine are: (1) low cost for the reproduction of any first copy and rock-bottom costs for runs up to 300 copies; (2) any combination of five colours can be used in one operation and on any one original; (3) finest detail in architects' or engineers' drawings, charts, maps, plans, graphs, etc., is successfully reproduced; (4) perfect registration is obtained when working on printed forms, etc.; (5) no special duplicating papers are needed; (6) alterations can be made on an "original" as easily as on a typed letter; (7) no inks, gelatine, compositions, water, or stencils are used nor need the machine be cleaned up after use; (8) no smudging, blurring or creasing of originals or reproductions possible when operating the machine; (9) rate of reproduction can be anything from 40 a minute; (10) the machine is simple to operate, a junior can be left in charge.

Before I explain the points in detail let us examine the method of reproduction. It is based on the hectographic rotary offset process. The Fordigraph reproducing-sheets are coated with hectographic ink, the formula of the coating being such that it bears a true relation with Fordigraph reproducing spirit, the other necessary reproduction component.

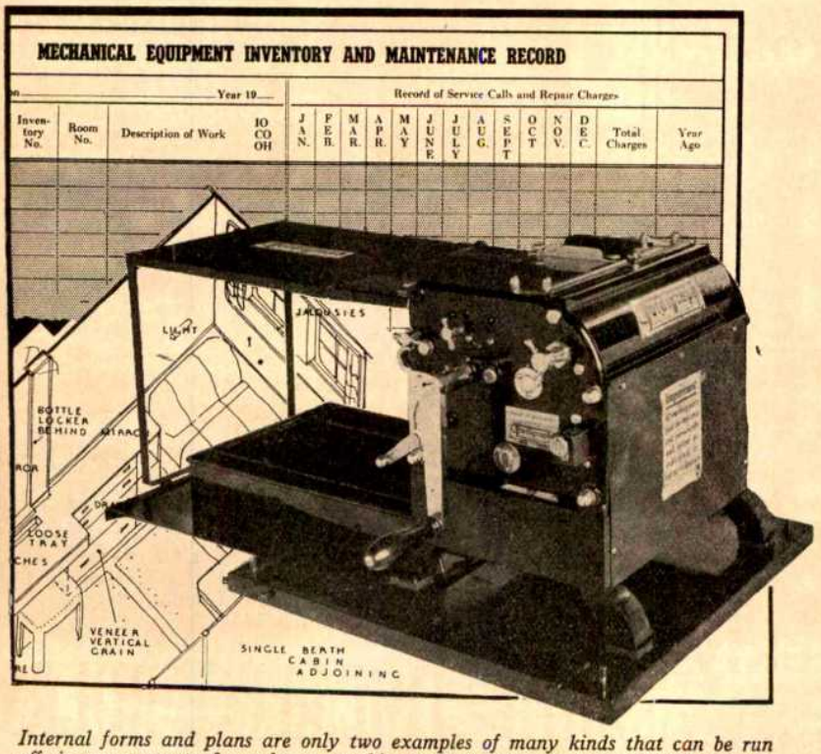
An original or master sheet from which reproductions are taken is easily made by placing a piece of ordinary one-sided art paper against the coated side of the reproducing carbon paper. Writing, typing, or drawing is then done on the unglazed back of the master sheet.

One point worth dealing with here is that of the paper on which reproductions are required to be made. While it is true that any type of paper can be used it is worthwhile, to get the best results, to use engine- or vegetable-sized papers. Tub-sized papers which are finished with a coating of gelatine, glue, or animal-size, are not so satisfactory because the coating is soluble in alcohol, which is the basis of the Fordigraph fluid, and the printing value of master sheet is impaired.

Apart from this "don't", one can use successfully the finest tissue paper, air-mail paper, cardboard, or even blotting-paper. All shapes and sizes of paper with torn or rough edges can be fed into the machine. It is not necessary to have carefully trimmed sheets. In the matter of size, you can print anything from a price ticket or gummed label to a sheet 18 in. by 13 in.

Preparation of the master sheet is simple and requires no skill. If it be a letter or some other typewriter work your typist can tap it out as quickly as she does an ordinary job. Drawings, plans, graphs, charts, forms, and similar work can be done and copies printed in one or more colours in little over the time it would ordinarily take to draw one original.

For hand-drawn work an ordinary hard lead pencil is sufficient as the carboned sheet and master paper are placed on a steel writing-plate which ensures clear, sharp lines being drawn. An ordinary stylo pen gives good results. For ruling or tracing forms, a sharp but rounded piece of steel such as a stylus is excellent.



Internal forms and plans are only two examples of many kinds that can be run off, in one or up to five colours, on this machine which needs no skilled operator

Registration for Colour Work is Simple

Reproduction of coloured originals is quite straightforward work. Carbons of the colours to be used are employed one after the other in preparing the master sheet. No adjustment of the machine or change in technique is needed for the printing process. Registration of colours is assured without special care having to be taken.

Where you use printed and ruled forms hair-line registration in printing additional matter on them is necessary. This is ensured by aligning accurately marked scales on the printing cylinder and the feed-in tray.

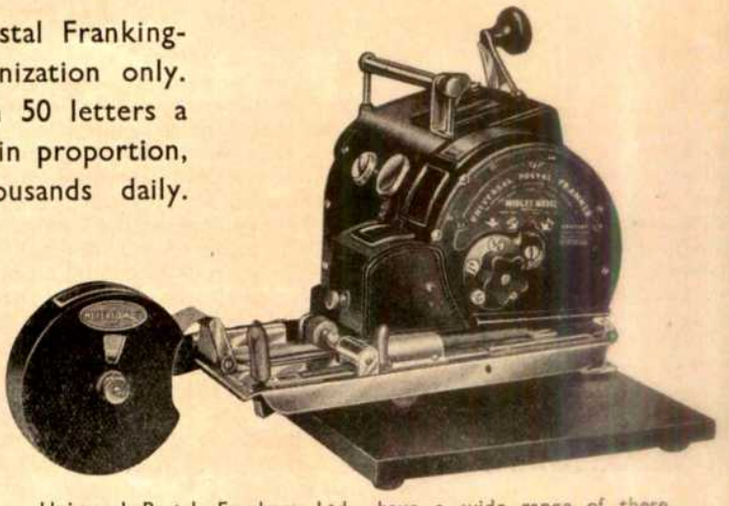
Alterations are easily made on the master sheet at any time.

My inquiries showed that many firms using the machines have saved 75 per cent in time spent on such jobs and have cut costs by over 50 per cent.

MAKE YOUR MAIL
evidence of progress

It is a mistaken belief that the use of Postal Franking-machines is beneficial to the large organization only. The relatively small concern, handling from 50 letters a day up, can effect just the same economies, in proportion, as a business whose mail runs into thousands daily.

FURTHER, THE SMALLER BUSINESS, BY USING THIS METHOD, SECURES THE ADDED ADVANTAGE OF CREATING WITH THE RECEIVER THE IMPRESSION OF CONSEQUENCE, USUALLY ASSOCIATED WITH A FRANKED LETTER. HE IS IN GOOD COMPANY ; INASMUCH AS MANY LARGE AND INFLUENTIAL ORGANIZATIONS USE FRANKING-MACHINES HE IS ASSURED OF THE PRESTIGE AND DIGNITY SURROUNDING THE FRANK.



Universal Postal Frankers Ltd., have a wide range of these machines. Illustrated is the new Improved "Midget", suitable for a mail of 50 or more letters a day, and shows the special gummed paper strip attachment for franking of bulky envelopes, parcels, etc.

UNIVERSAL POSTAL FRANKERS LTD

1-7 CANONBURY STREET, LONDON, N.1 — *Telephone - - - Clissold 3613/5*

Facts and Ideas for Advertisers that you can Use with Profit

IF you could gather for yourself all the latest news, developments, and the most successful plans in the advertising field, and those selling methods proved soundest in selling practice—

How much would it be worth to you?

Pounds and Pounds! For it would help you to get more out of your advertising and to increase your turnover and profits. But the cost, if you did it yourself, would be prohibitive.

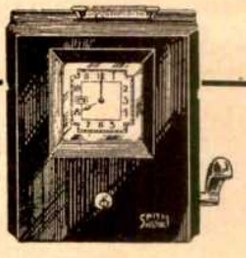
Here is a way you can do it for less than a penny a day.

For in the pages of the ADVERTISER'S WEEKLY there comes to your desk every Thursday just such a complete report as you could wish for, on the most recent news and developments in advertising and selling and in the latest ideas in Press, Poster, Direct-Mail, Outdoor, Sign, Film, Novelty and every other branch of advertising. In addition, you also get Marketing Surveys both regional and overseas, which show you the sales possibilities and facilities in all the markets covered.

To secure all these sales and advertising ideas, facts and data regularly every week, you need simply order your newsagent to deliver "ADVERTISER'S WEEKLY" every Thursday morning. Or, if you prefer, first send a post card for a specimen copy TO-DAY to the Publishers :—

Advertiser's Weekly

BUSINESS PUBLICATIONS LTD., Dept. B.A.
WHITEFRIARS HOUSE, TALLIS ST., LONDON, E.C.4



THIS MACHINE IS INDISPENSABLE TO YOU . . . *Why?*

- ✱ **1.** Employees clock "IN" or "OUT" at any identical moment and the machine automatically locates the registration on the card in the correct space.
- ✱ **2.** No "SHIFT" lever.
- ✱ **3.** Patent punch mechanism prevents intentional or unintentional double recordings.
- ✱ **4.** Two-colour machine and the colour programme can be set to any specific requirements.
- ✱ **5.** Recordings are made on the front of the card, thus accelerating the "CLOCKING IN" rate.
- ✱ **6.** Modern and neat in design—minimum space required.
- ✱ **7.** As it is electrically operated, correct time is always ensured.

Issued by : **SYNCHRO TIME SYSTEMS LTD., Industrial Branch of SMITH'S ENGLISH CLOCKS LIMITED, 57-63 Wharfdale Road, London, N. 1. 'Phone TERminus 2133.**

The
SMITH ELECTRIC TIME RECORDERS

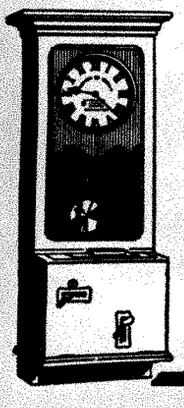
Scientific

AN APOLOGY

WE REGRET that our issue of Samples in the February Number of BUSINESS included a "Flick-Tuk" bag which infringed the Patents of a Bag manufactured by Chapman & Co. (Balham) Limited of Grange Mills, Balham, London, S.W.12, and known as the "Balgram Regulation Bag."

We extend our sincerest apologies to Chapman & Co. (Balham) Limited for having distributed the same.

LEWIS EAST & COMPANY



GUARD THE MINUTES

that should bring you profit with a G.B. Recorder. The undisputable records it provides of time worked help to cut out waste which otherwise increases your overheads. The G. B. System induces punctuality without favouritism and friction.

Send for catalogue of these British made recorders.

GLEDHILL BROOK

TIME RECORDERS LTD.

38, EMPIRE WORKS, HUDDERSFIELD

How the Cycle Trade Got Its Second Wind

(*Continued from page 9*)

The company has ten thousand appointed agents in nearly one hundred countries. This is a system of "protected" agencies, each one carefully selected for efficiency and progressiveness by the sales organization vested in thirteen main distributing depots located at strategic points throughout Britain.

Each of these main depots carries large floating stocks of machines (in some the stocks total 10,000 machines) and each depot has its quota of area-travelling salesmen attached.

The salesman continuously "service" the individual dealers, not aggressively as "order-takers" but as constructive advisers, their object being to help the dealer to increase his turnover.

The central sales organization at Raleigh headquarters know well that progress is governed entirely by the speed of retail outlets. Thus all their efforts are directed constructively in this direction.

Helping the Dealer to Raise His Turnover

The dealer-aid service organized by the sales promotion department at the Raleigh headquarters in Nottingham is very comprehensive, and is set out in a loose-leaf book, a copy of which is given to each dealer. This service includes almost every kind of display material, from simple window-stickers to complete window-trims.

The marketing policy of the company has been: (a) constantly to advance the technical design and quality of the bicycle itself, and (b) to develop by advertising those tendencies among the public which came to the forefront after the War; i.e., the greater desire to get more out into the open air; the freer mixing together of young people in the club spirit; and the desire of thousands of people to live farther and farther away from big towns and industrial areas.

Raleigh's intensive policy of technical and design improvement has enabled the company to capture the lion's share of the better grade end of the market as well as a very substantial share in the typical mass market. In this latter buying class, where bicycles are needed almost solely for utilitarian purposes, tens of thousands of users prefer to spend just that little more in order to get what they know to be a top-quality product.

And it is in this market that modern hire purchase facilities have been of particular benefit to users . . . and to the Raleigh company's turnover.

A very powerful sales factor in what might be called the "bicycle for pleasure" market has been the series of cycling records set up by road-riding professionals.

The combination of Raleigh machine

and Sturmey-Archer 3-speed gear has been used in the setting up of many famous cycling records. These are always of great interest to enthusiastic amateurs and to club riders generally. The company has therefore devoted a good deal of its propaganda appropriation to popularizing these records in the Press generally and the cycling papers particularly.

At the beginning of this article we mentioned the enormous benefit to the industry of the greatly increased number of women who took to cycling after the War.

At the outset that was really nothing more nor less than a lucky break for the cycle manufacturers. Women's machines of those days were inelegant and they were heavy. It was here, therefore, that the ingenuity of the bicycle technicians would have scope for full play. Something would have to be done if this new movement among women was to be consolidated and expanded.

Improved Machines Created Wider Appeal

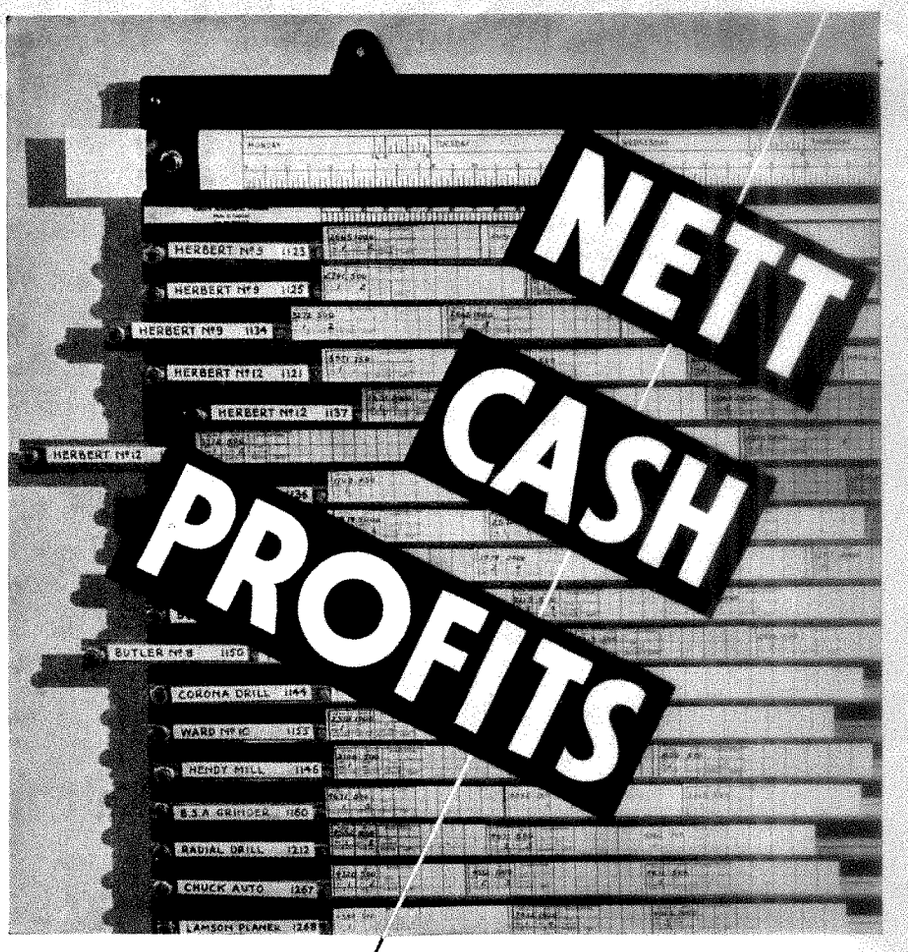
It was in this section of the cycle business, therefore, that the metallurgical improvements which Raleigh had recently discovered could be turned to biggest account. The lighter yet stronger steels for frames and other parts enabled weight to be cut down by fully one third, better bearings gave easier running and vastly improved design made women's machines much more appealing propositions.

With such improvements, and appropriate advertising, the women's section of the market has therefore been profitably expanded.

While on the subject of design we cannot close without a further word about Raleigh's latest development, the dynohub electric lighting system.

As its name implies, this idea incorporates an electric generator within the hub of the machine, and it has been described by many as the greatest advance in cycle construction since the introduction of the free-wheel; further than this, its adaption in other directions apart from cycles is hardly yet measurable.

There is nothing new in having electric



ULTIMATELY BUSINESS SUCCESS IS MEASURED BY NETT CASH PROFITS

Does it cost you too much to make ?
Is there an uncomfortable gap between gross profits and nett cash profits ?
On the manufacturing side alone, is there complete co-ordination between the various processes ? Are purchases, raw materials, and component stocks stages of a continuous and planned process or three separate unco-ordinated items ? Can you see immediately the load on the shops and the effects of overloads and underloads ? If a hold-up occurs can the real cause be located rapidly and the effect of the necessary readjustment on the plan be immediately grasped ?
Kardex Mechanical Planners and Visible Records perform the essential functions of giving rapid visual control of all stages in the process of manufacture. But in addition they enable you to plan simply and efficiently and to check the performance against the plan. Write for Planner Bulletin No. B.080.

KARDEX
1, LEADENHALL ST., LONDON, E.C.3.
REPRESENTED IN THE PRINCIPAL CITIES THROUGHOUT GREAT BRITAIN

VENUS PENCILS

VENUS PENCILS are incomparably smooth and long lasting, their standard of quality never varies.
MADE IN ENGLAND
KNOWN THROUGHOUT THE WORLD
If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.
VENUS PENCIL CO. Ltd., LONDON, E.8

From 6b softest, to 9b, hardest

SOARING SALES

increase the risk of leakage. Get the utmost benefit from your trading by checking your cash with a British Gledhill Register, which keeps a strict watch over every penny and acts as an extra assistant in busy periods. Over 100,000 Gledhills in daily use, giving faithful service

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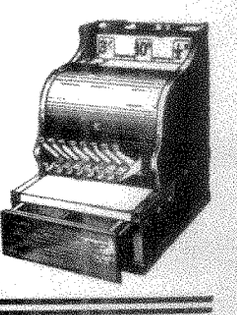
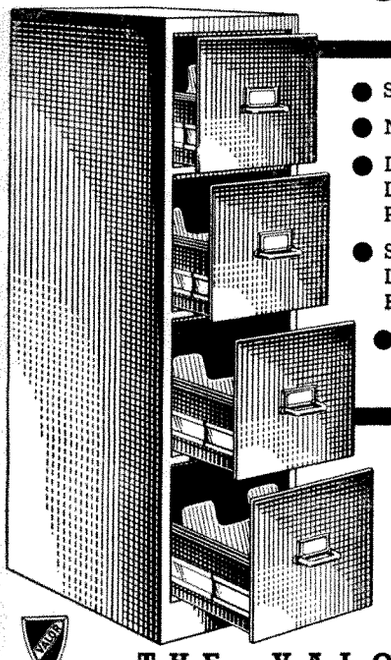
50, TRINITY WORKS, HALIFAX



Points in favour of VALOR STEEL FILING CABINETS



- STEEL-BUILT FOR LONG LIFE
- NON-TEAR EDGES AT FOOT
- DEEP QUARTO OR FOOLSCAP DRAWERS WITH ADJUSTABLE COMPRESSOR PLATES
- SMOOTH NON-JAMMING "BUILT TO LAST" TWO-POINT NICKEL-STEEL OR ROLLER SLIDES
- BRIGHT HARD-WEARING OLIVE GREEN FINISH

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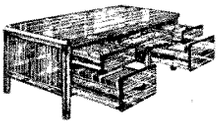

What an asset to executives to have figures and facts at hand without even waiting for secretaries to produce them.

Watlane System Desks are designed so that you can keep all vital information and documents etc. such as you constantly require permanently within handreach. Also they're designed for comfort and ease when in use.

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Ideas Drawings and Copy by CRICHTON STUDIOS LTD. will make a big difference to your advertising

5, CHANCERY LANE, LONDON W.C.2. HOL.8400
and at Prudential Buildings, Kings St., Manchester

lighting on a bicycle. Battery lamps have been commonplace for years, even friction-driven dynamos have been used to some extent. But this new feature of Raleigh's is immeasurably ahead of these two earlier forms.

The dyno-hub system in fact makes the bicycle for the first time a completely self-contained unit. As a progressive step it is at least as important as the rim brake which ousted the old spoon brake of years ago, or the free-wheel which superceded the ancient fixed wheel. Although exclusively a Raleigh feature at the moment it is not difficult to foresee that this development will soon become universal on bicycles throughout the world.

●

'Staggered' Holidays Not Yet

(*Continued from page* 12)

Families like to take their holidays together; thus the whole matter turns upon this point of the school summer holiday period. So long as the authorities stick to August there seems no likelihood whatever of business firms being able to adopt a staggered plan.

The average firm would never attempt to do it by compulsion. There would be an upheaval among its employees at once. Organized industry, however, could get the school practice altered. Beyond tradition there is not the least barrier to the schools staggering their holidays over four, or at least three, months.

The Government would be performing a good service by providing this matter as the next subject for investigation by Lord Amulree's Committee.

●

Planning the Office

(*Continued from page* 22)

against the window. The operators, he thought, would like to face the open space.

But nothing could have been worse. The constant glare of a big expanse of sky, even when the sun was not shining, was too drastic a contrast to the comparative gloom of the keyboards. Eyes could not stand the strain, plus the effect of white light reflected up from the glass-covered keys at certain angles.

When the machines were turned round and the operators seated with their backs to the light, work improved and eye-strain practically disappeared.

Petty annoyances destroy co-operation and goodwill. Overcrowding of desks, lack of space on which to put papers, documents and so on build up among office employees a cumulative resentment that kills all initiative and real interest in the work.

It is no economy to ration your office space until your overcrowded employees find that a smooth flow of work is impossible.

Factory at Swansea Helps You Build *Export Trade* Because—

1. It is U.K.'s most 'open-ocean' port
2. You can ship large or small, mixed cargoes
3. Shipping costs are below average

SWANSEA, centre of the coal, tinplate, and other metal industries, is setting out to become a home for light industries. The story behind the town's aim to attract the consumer-goods type of manufacturer is similar to that behind most centres of heavy industries. Reliance on coal-mining and metal-working brought trouble during the recent slump. Since then recovery has been only partial and the prospects of a return to full prosperity, based on these major industries alone, are remote. Not that the coal-mines and the tinplate works, for example, are not active; they are, but they do not need to-day all the labour to get as much or more production as they got in pre-slump days. Hence, there are about 12,000 unemployed in the area, and a problem of diversifying local industry. That is why the town is re-planning and developing its facilities—to induce new industries to locate within its boundaries.

From your point of view, as a manufacturer, there are certainly many attractions in a site at Swansea. Summed up, ten specific advantages can be named: (1) Good all-round facilities for developing overseas trade; (2) first-rate port facilities; (3) supplies close at hand of many raw and semi-manufactured materials; (4) abundant skilled and semi-skilled labour; (5) very cheap electricity; (6) good road and rail transport services; (7) cheap rental of standing buildings and land for rental or purchase at low cost; (8) cheap and plentiful water supply; (9) a valuable doorstep market; (10) good local services, excellent amenities, and wholehearted local support and help.

Special Help Is Given The Small Manufacturer

Let us take the first two points. The port is trying especially to make it worth the while of small manufacturers to locate on one of the dockside sites. The local council and private landowners are willing to let sites at exceptionally favourable terms. The authorities will co-operate in providing services (power, water, etc.) at very low cost and may make special concessions in such matters as rates.

Swansea is the nearest large port to the Atlantic. This means that a good deal of time and money is saved in shipping goods to most of the important overseas markets. The saving in distances is shown in this table:

Miles					
Swansea	Cardiff	Bristol	Hull	London	To
2,915	2,975	3,005	3,405	3,135	Montreal
2,960	3,020	3,050	3,450	3,180	New York
4,020	4,080	4,110	4,510	4,240	Para
5,960	6,020	6,050	6,450	6,180	Cape Town
6,200	6,260	6,290	6,690	6,420	Bombay
11,450	11,510	11,540	11,940	11,670	Christchurch
10,680	10,740	10,770	11,170	10,900	Adelaide
510	570	600	1,000	730	Bordeaux
845	905	935	1,335	1,065	Lisbon
1,810	1,870	1,900	2,300	2,030	Marseilles
6,200	6,260	6,290	6,690	6,420	Buenos Aires

These differences, amounting to some hundreds of miles in many cases, are of great value in the aggregate. Shipping costs are lower. Deliveries are speedier. There is less chance of deterioration of, or damage to, goods in transit. Moreover, the port is particularly suited to the exporter, as the ships carry mixed cargoes and sail frequently to all important foreign and Empire ports.

Port facilities? Recently G.W.R. carried out a £1,000,000 reconstruction of the docks, equipment, buildings, etc. The docks now have a deep-water area of 270 acres and quayage of 32,000 ft. Transit sheds cover an area of 792,630 sq. ft. Dock railways and sidings total 85 miles. There are five modern dry docks, a graving dock capable of taking the largest liners, an oil bunkering jetty, and 21 coal hoists. Part of the modern equipment includes 38 electric cranes, of which 28 have a capacity of three tons. The dock area includes:

	Transit Sheds	Square Feet
King's Dock	6 ...	477,082
Prince of Wales's Dock	7 ...	226,120
South Dock	5 ...	78,604
Fish Market	1 ...	26,256
Riverside Wharf ...	1 ...	8,510
	20	816,572

Swansea is well placed for raw materials supply. Right at hand are coal, limestone, silica, brick earth, shales, sand, sandstone, and so on—all "raws" that are useful to scores of different manufacturers. In addition, there are supplies of such semi- and manufactured materials as iron, steel, tinplates, terne-plates, copper, brass and yellow metal, zinc chloride, zinc (spelter), galvanized sheets, nickel, steel tubes.

From the viewpoint of labour, the new manufacturer will find little difficulty in getting a "factory skilled" staff. The diversity of metal industries carried on for generations has provided a wealth of men and women who have at least some skill in machine work. Although they may not have had experience in light industry, they are adaptable and quickly acquire the special skill needed.

The amount of labour available at the present time is shown by the latest Ministry of Labour figures: Men, 10,056; women, 1,184; juveniles, 1,279; total, 12,519. Of this number it is estimated that 50 per cent are skilled in some sort of factory work, 25 per cent semi-skilled, and the remainder unskilled.

The average wage of labour in the area is: skilled, about 1s. 6½d. an hour; unskilled, about 1s. 2d. an hour.

The corporation supply electric power. The recently completed new power station has been selected as a generating supply for the national grid scheme. Its total capacity is 240,000 kw., power available for all existing industries and for any likely future development.

Electricity Engineers Will Probe Your Problems

The electricity department will serve you in many ways. For instance, the staff draw up details of installations and tell you the cost of various operations which might be done with electricity. They will investigate your problems. Recently, for example, the department's engineers were able to wipe out stoppages at a "bottleneck" in one factory. The method they devised is almost foolproof.

Price of current varies, of course, with the amount taken and the time at which it is taken. For the small user the cost is around 8d. per unit. Big users, can,

naturally, obtain lower rates. Installation of the department's equipment is free and maintenance is free. At regular periods inspection and check-up of equipment and service is carried out.

Swansea Gas Light Company supply gas on the block system. Charges for gas for central heating and for industrial purposes range from 6.25d. down to 4.45d. per therm. The company's technicians will investigate and give you help on problems concerned with heat processes and other work in which gas is or can be used.

Distribution from a factory in Swansea can be carried out swiftly all over the British Isles. Both road and rail facilities are good. The area is served by two of Britain's main railway groups—G.W.R. and L.M.S.R.

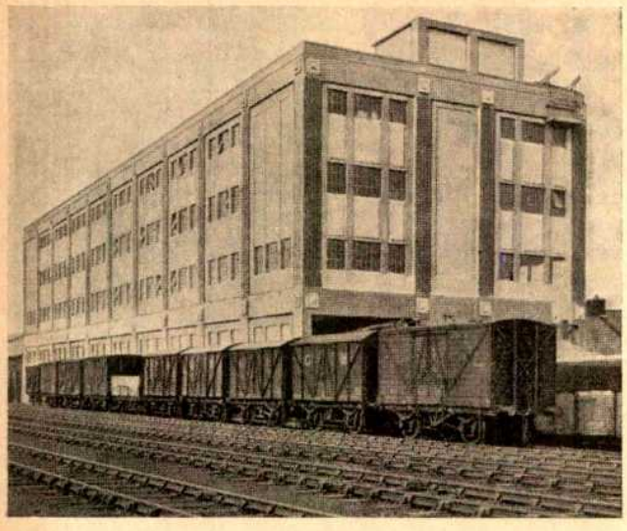
Fast trains on the G.W. system do the journey from Paddington to Swansea in four hours. G.W.R. also connects the port with Birmingham and the Midlands. In addition, the company's service links various centres in West Wales—Carmarthen, Tenby, Pembroke Dock, Milford Haven, Fishguard—to the port.

L.M.S.R. provide express passenger and freight services to Shrewsbury, the Midlands, Liverpool, Manchester, Newcastle, and North-East Coast, the North of England generally, Scotland, Irish Free State via Holyhead, and Northern Ireland via Heysham and via Stranraer.

Main roads from Swansea give access to Chester, Liverpool, Manchester, and the North; Worcester, Birmingham, Wolverhampton, Leicester, and the Midlands; and via Gloucester to London and the South. Distances by road and rail from Swansea to these and other main centres are:

	Rail	Road
London	198	194
Worcester	106	98
Birmingham	131	124
Northampton	175	163
Leicester	170	165
Liverpool	169	171
Manchester	178	191

It is not, of course, possible to state the cost of available factory land and buildings in the port, as ownership is diverse and the prices asked differ a great deal. But to give you a clear idea of the type of sites available, here are six specific areas which are for sale or rental in whole or part: (1) Near Mond's chemical works, about 3½ miles from the centre of Swansea, is a site of 145 acres. It has river frontage, abuts the main G.W.R. line, and has good road access. The land is undulating, beneficially from a manufacturer's viewpoint; (2) also with river frontage and about 3 miles from the town centre is an area of 230 acres of flat land. It abuts G.W.R. line, has good road access, is served by streams, and is near to a large steel works; (3) old buildings are available on a site of 63 acres, situated between river and canal a mile from the town. All town services are provided. Near by are spelter, hematite, and tube works; (4) on the riverside and less than a mile from the town centre is a flat site of 10 acres. It is near the main road, the railway, and a big copper works; (5) abutting to main road and within a mile of the new power station there is a site of 142 acres, undulating land; (6) adjacent to tinplate works and almost abutting the docks and foreshore there is an area of 31 acres.



Recently G.W.R. carried out £1,000,000 reconstruction of docks, equipment, buildings, etc. That is one reason why Swansea's port facilities are up-to-date and economic. The building shown here is a good example of the port's modernization

Most of the sites mentioned have river and canal water available as well as the corporation supply. Charges for the town's water vary from 1s. 6d. per 1,000 gallons up to 50,000 gallons per quarter to 6d. or less per 1,000 gallons when 12,000,000 gallons or more per quarter are taken. The water is soft and pure, and there is a surplus supply of millions of gallons daily.

Swansea offers a considerable doorstep market—1,000,000 population within a radius of 25 miles. The port itself is one of the largest county boroughs in Britain. It has an area of 24,000 acres and a population of 165,000.

Now for some other market indicators. Of the population, nearly 81,000 are males and over 83,000 are females. Persons under 14 number about 39,000. The total number of people of 14 years or more who are in occupations is over 70,000. The total of insured workers is 44,500.

The number of families in Swansea is about 41,000. These are divided into the following income classes: £500 a year and over—4.3 per cent; over £250 but under £500 a year—12.9 per cent; more than £2 10s. but less than £5 a week—55.3 per cent; £2 10s. a week and under—27.5 per cent. Other factors indicating the standard of living in the area are: telephone subscribers, 3,055; cars licensed, 5,079; commercial vehicles licensed, 1,547; houses wired for electricity, 22,000; radio licences, 38,100.

These facts are all pointers to the trade possible in Swansea. For a manufacturer of consumer-type goods the prospects are particularly bright.

New Reflector Improves Lighting and Cuts Costs At Least 40 Per Cent

BY means of a new reflector recently put on the market you can now get artificial illumination that is within four per cent of pale sunlight or natural daylight, the accepted standard of ideal light. There is nothing complicated about these "Marley" reflectors. They are reasonable in price and can be fitted to your present lighting systems without any extra cost.

Here Are Five Special Advantages

Five other distinct advantages claimed for them are: (1) increased illumination; (2) economy of current consumption of at least 40 per cent; (3) elimination of eyestrain; (4) for use with standard pearl or clear lamps; (5) no blue bulbs, filters, etc., required.

The main work of the reflector is to *improve the quality* of light, to filter it to the ideal pale sunlight standard. Hitherto, this perfection has not been reached. The blue "daylight" lamp, for example, eliminates the whole of the red-yellow rays of an electric light bulb and produces illumination which is further removed from natural daylight than is the original light. The process of filtering also absorbs light produced, therefore to maintain intensity an increase of current consumption—use of higher wattage lamps—is needed.

To obtain natural light it is necessary to take out only a proportion of red-yellow rays. This is what the Marley reflector does. It is constructed of three-ply glass—two-ply of highest quality white crystal glass and a very thin ply of special blue glass. This blue glass is "blown on" the inside of the reflector. The outside is heavily silvered and then coppered.

The deposit of blue glass is of a shade and thickness to filter the red-yellow rays sufficiently to give a white and not a blue light. The absorption which takes place is almost nil, thus as well as quality you get quantity of light. Indeed, tests by light meters show that, as compared with ordinary reflectors, an increase in foot candles takes place.

Lighting Bill Cut By 40 Per Cent

An important point is that this increased illumination is gained while a saving in current consumption occurs. The efficiency of the reflectors is such that a lower wattage bulb can be used to get better lighting. And at least 40 per cent can be cut off your lighting bill. In many instances the saving is considerably more and the increase in intensity ranges from 40 to 100 per cent.

Several firms now using the Marley reflector not only save in current consumption, get better lighting, and eliminate eyestrain, but obtain *increase in production*. With no additional staff or machines, one manufacturer's output has gone up 17½ per cent. In other instances production increases measure between 5 and 15 per cent.

The Seaside Home of Heavy Industries..

SWANSEA

and the nearest Atlantic Port to London and the Midlands

- Within a radius of 20 miles of the Borough of Swansea are nearly 500 works and collieries—because of the unique advantages—rapid distribution of goods, abundant supply of labour, cheap electricity, pure water.
- A compact market of 1,000,000 people within a 25-mile radius.
- World-renowned Anthracite and Steam coalfields adjoin the town and port. Naples-like Bay, with beautiful resort surroundings.
- Five excellent docks, equipped with latest equipment.
- Excellent sites available and factory buildings on moderate terms.
- Every assistance rendered to industrialists and manufacturers.

D. IVOR SAUNDERS, F.S.I., Manager of the Industrial Development Committee, The Guildhall, Swansea

Telephone: 82821. *Telegrams: "Valuer," Swansea*

What Shall We Do About this Factory Act? *Second Article*

There are Strict Provisions About the *Guarding of Machinery . . .*

IF I were asked by a busy employer which part of the new Factory Act he should read first, in case he should have no time in the near future to read the rest, I should without hesitation reply, "Part II".

In this part, the subject matter of which is Safety, there are more new provisions than in all the remainder of the act. In fact, in this part there is something approaching a complete Factory Safety Code, which stands out in marked contrast to the rudimentary provisions made in the previous Act.

But there is a second reason of an equally practical character. It is open to an employer to obtain an extension of time in the case of any of the provisions of this part of the Act. The extension may, in the strongest cases, be until 1st January, 1940.

To obtain such an extension what must you, as a factory employer, do? You must satisfy the Home Secretary that the change-over in the case of the new obligation in question will involve you in substantial expense or in other difficulties of a special nature.

Or, if you think that the same applies to other factories in your industry or locality, you may move them all to make a joint request for the postponement.

But, unless you succeed in such an application, the obligation will operate from July next like the rest of the Act.

Specific Machinery That Must Be Fenced

Employers must remember that the Factory Act does not merely oblige them to make dangerous machinery safe. There are certain kinds of machinery which must be made safe by means of *fencing*.

How often have High Court Judges rebuked police court magistrates for failing to appreciate this distinction! As employers you have more to fear than mere censure if you fail to recognize the point, especially if an unfortunate employee is injured in consequence.

The classes of machinery which must definitely be fenced are: (1) every moving part of every prime mover (or engine supplying mechanical energy from whatever source), with the sole exception of electric generators, motors, rotary converters, and fly-wheels directly connected with them: (2) every fly-wheel connected with a prime mover; (3) the head and tail race of every water-wheel or water-turbine.

It will not help you, when prosecuted for failing to fence machinery of this description, to plead that it would not pay you to provide the machine if fenced, or that it is placed out of the reach of persons in your factory. Nor will a barrier round the machine as a whole serve as a substitute for the fencing of the particular parts.

There is a second category of factory machinery in regard to which your obligation is to make the machinery safe, but not necessarily by fencing.

Under this heading will now fall all dangerous parts of machinery, all parts of transmission machinery, electric generators, motors and rotary converters and the fly-wheels connected with them, and any part of a stockbar beyond the head-stock of a lathe.

Your Responsibility Here Is Doubly High

Employers do not always realize how high their responsibility lies in this question of dangerous machinery.

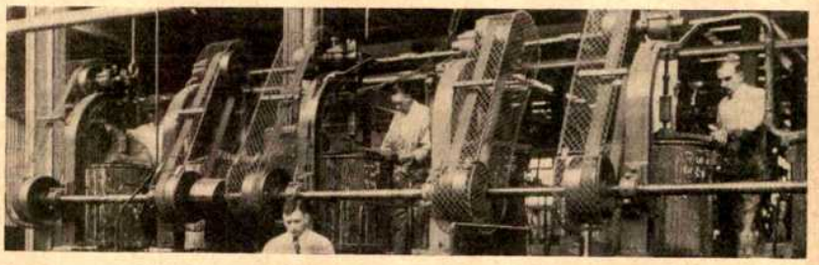
Firstly, they are liable to prosecution quite irrespective of anyone being injured as a result of their omission. Secondly, their civil liability in damages, if anyone is in fact injured, is at its maximum. Why?

Because the injured employee can claim at Common Law, and is not restricted to claiming under the Workmen's Compensation Act. Moreover, in this action at Common Law the employer is unable to plead either of the usual defences, e.g., Common Employment and Contributory Negligence. And to make the prospect as black as possible for the negligent employer the insurance company will very likely disclaim liability on the strength of the clause in the policy which excepts accidents arising out of the breach of a statutory duty.

There is Obligation, too, on the Employee

But the new Act also places a fresh responsibility on factory workers as well. From July next any factory worker will be liable to prosecution if he fails to use anything which his employer provides under the Act for securing his health, welfare or safety, or if he does anything likely to endanger himself or others. So woe betide those workers who sedulously remove the guards from their machine or refuse to wear the goggles their employers have to provide! Besides, this new departure affects their compensation rights in the event of injury.

In future, if an employee is injured, say, after removing the guard from the machine, the employer will be able to plead that the employee had done a prohibited act which took him outside the sphere of his duties: the employee will lose his compensation as a consequence. This will be the legal position in all but fatal cases and those involving serious permanent disablement.



"In this Section, Part 2 of the New Act, under the heading 'Safety', there are more provisions than in the rest of the whole Act. In effect, they constitute a complete new safety code, of vital importance to employers," says . . .

H. SAMUELS

Author of "Law Relating to Industry," "Law Relating to Shops," "Factories Act, 1937," Etc.

To assist readers to understand how the new Factory Act affects their businesses we have asked Mr. Samuels to contribute six special articles explaining, in straightforward language, the main points of the Act.

✦

On this page he deals with Guarding Machinery.

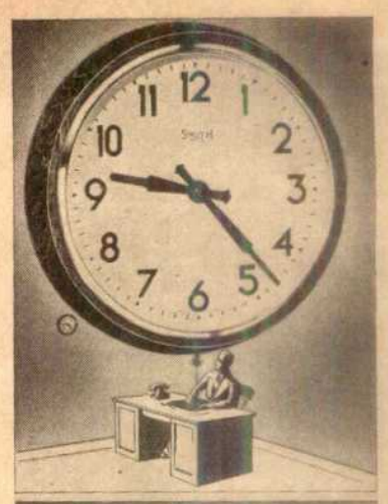
✦

In next month's issue he will go further into this subject and into Accident Prevention.

"SECTRIC TIMERS are EQUIPPED FOR EFFICIENCY"

says Mr. Sectric

EFFICIENCY without good time-keeping is in these days unthinkable. And a secret of efficient time-keeping and punctuality in factories, workshops, showrooms, and offices is the installation of Smith "Sectric" Clocks. They will give you and your employees Greenwich time at business and at home, cost only 1s. a year each for current, and never have to be wound or regulated. Call in Mr. Sectric at once! We will gladly send free brochure.



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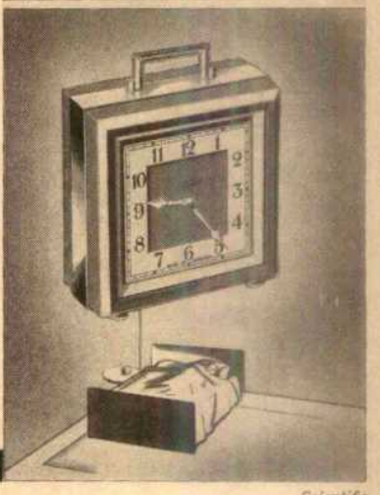
LARK. Modern character, synchronous self-starting alarm. In Walnut and Gilt, Black and Chromed finishes, and pastel shades of Blue, Green or Primrose. Height 4½ in., width 4½ in., depth 2½ in. Price **36/-.**



SMITH SECTRIC CLOCKS

Enquiries for Smith "Sectric" Domestic Commercial and Special Models to Smith's English Clocks, Ltd., Cricklewood Works, London, N.W.2.

Enquiries concerning Smith Master Clock Systems, Turret and Exterior Clocks, Time Recorders, and similar industrial Time Equipment (cash or rental) to SYNCHRO TIME SYSTEMS, LTD., Relyon House, 57-63 Wharfdale Road, King's Cross, N.1. Telephone: Terminus 2133.

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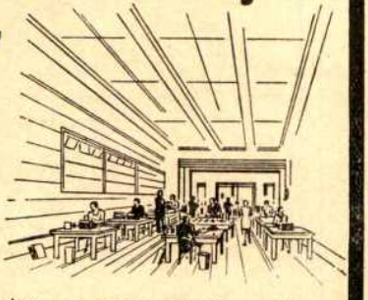
Scientific

Walpamur Paints make life brighter and healthier for your workpeople



Industrial and Welfare Research have revealed the importance of bright, interesting surroundings in promoting staff efficiency.

It has been established that clean bright colours do much to reduce fatigue, and the use of wall paints which reflect the maximum of light without harsh irritating glare will avoid the possibility of eye-strain caused by undiffused light.

The use of 'Walpamur' Water Paint or Ferox White for Factories effects a considerable saving on labour costs over yearly limewashing, as they conform to the requirements of the Factory and Workshops Act, and secure exemption from repainting for periods of three and seven years respectively.

- **'WALPAMUR' Water Paint,** for walls and ceilings—a durable, non-absorbent, flat finish which is washable, fire resisting and hygienic—available in over 70 delightful shades.
- **'DURADIO' Enamel Paint** suitable for all surfaces and for interior and exterior use. Produces an efficient and durable high gloss finish which withstands hard wear and repeated washings—made in 50 distinctive colours.
- **'FEROX' White** for Factories presents an eggshell finish which is washable and durable and can be brushed or sprayed over old distemper—usually manufactured in white, but any desired colour can be obtained.

Colour cards and further particulars can be obtained from

The WALPAMUR Co Ltd

35/6 Rathbone Place, LONDON, W.1 or *The Works, DARWEN, Lancs.*

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or factory

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EFFICIENCY

A Magnetic Valve installation ensures complete automatic control of temperature within critical limits.

☆ *Write for the book "Temperature Control for all purposes."*

THE MAGNETIC VALVE CO LIMITED

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(Obsolete)

TINS
(Insanitary)

OPAQUE PAY ENVELOPES
(Sanitary, but no check and no security)

TRANSPARENT PAY ENVELOPES
(An improvement, but flimsy and insecure)

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with Gummed Flaps
THE FIRST REAL WAGES CHECK

And Now—

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WITH AUTOMATIC RUBBER SEALING

The Modern Method

No damping required. They are a perfect wages check. Notes can be handled and coins checked without breaking seals and they cost less than transparent envelopes (average 8/6 per 1,000, according to quantity).

A UNIQUE OFFER. Test them at our expense.

Although in regular use by many local authorities, we can appreciate a natural hesitation to install a new system. On receipt of a request signed by responsible officer of business firm or public authority with coupon below attached, we will send you, entirely free and carriage paid, sufficient for one week's test of your pay roll.

Lancaster's Autoseal Pay Wallets
FREE COUPON FOR 1 WEEK'S TEST
(WITHOUT OBLIGATION)
To LANCASTER BROTHERS & Co.,
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Shadwell Street, Birmingham, 4

Send free supply of wallets for one week's thorough test. The number of employees is ____

Name .....

Address .....

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Signed ..... Office held .....

Lancaster Brothers & Co.
Envelope and Cash Bag Specialists
SHADWELL ST., BIRMINGHAM, 4

No Maintenance Costs Now If You Use This New Structural Material

A NEW type of steel and asbestos roofing, flooring, and sheeting has recently been put on the market by a London firm of manufacturers. The material can be used for dozens of different purposes—walling, panelling, machinery guarding, and other work where rigid, heat and fire resisting, non-resonant, and splinter-proof material is needed.

This "Durasteel", as it is known, is made by a process which, among other things, combines asbestos with steel. In one process the steel is pressed on asbestos, in the other the reverse order is used. The resulting product in each instance, however, has these advantages: (1) being exceptionally strong, it will not fracture or buckle; (2) it is unaffected by any climatic conditions; (3) once the roofing, flooring, or sheeting is fixed in position, costs end as there is no maintenance expense; (4) "Durasteel" has been officially passed as fireproof; (5) it retards conduction of heat, cold, and sound.

Despite the strength of the material it may be easily drilled, punched, or sawn. Normal types of fasteners can be used in the erecting work.

Evidence of the fireproof qualities of Durasteel is shown in tests with ignited Thermit iron. The temperature attained in concentrated flame of burning Thermit is about 5,400 deg. F. On a ¼-in. steel plate 2½ lb. of Thermit fused the underside of the steel, almost penetrating the plate. The same quantity of Thermit failed to penetrate a ¼-in. Durasteel panel. Immediately after the flame burnt out the underside of the panel could be touched with bare fingers. This compares with the white heat of the underside of the steel plate.

How to Introduce Building *Economies*

THE notable economy in construction and the efficiency in design of the modern building is due very largely to the development of concrete.

The bigger maximum work areas, the freedom from encumbering supports, the greatly increased natural lighting now enjoyed are factors that have all been introduced through the use of concrete construction. And, of course, there must not be forgotten almost complete protection against fire.

In a new booklet, *Modern Factories in Concrete*, the Cement and Concrete Association have well illustrated all these features which are of vital importance to manufacturers.

In this booklet illustrations show exactly how modern roof supports, for example, vastly enhance the "roominess" of even quite small factories. They show how, by another form of roof construction, natural top lighting can be increased by a very high percentage, and how window areas can likewise be made far more effective.

Other examples reveal how greater height can be built on a given area; how heating and ventilating can be made more efficient and economical; how conveyors and crane tracks can be better accommodated.

And throughout this booklet the decorative advantages of concrete and the simplicity it permits are admirably shown.

Slight rise given to the roof beams provides a sense of freedom and space which is of particular value in small factories. Good natural lighting of all the floor area is another feature of this type of construction

New Institution For Works Managers

With the object of raising the executive status and the administrative efficiency of the Works Manager, the *Institution of Works Managers* is now being formed with headquarters in Manchester.

Industry has expanded so rapidly in recent years and most types of manufactures are being conducted in larger and larger units that the works manager must inevitably carry increasing responsibilities.

Executives in manufacturing concerns who would like to hear more of the aims and objects of this new body should get in touch with the acting secretary, Mr. L. M. Angus-Butterworth, F.C.I.S., A.M.I.Mech.E., Ashton New Hall, Ashton-on-Mersey, Cheshire.

Air-Conditioning

What it is—What it Costs—What it Does

A GOOD good deal of misunderstanding exists as to the precise meaning of the term "air-conditioning". It should therefore be explained that air-conditioning implies the five factors: warming, cooling, humidifying, de-humidifying, circulation; not all together, of course, but in balanced combination to produce in a room the ideal condition for any required circumstance.

True air-conditioning also implies that these factors, in proper balance, shall be the *sole* source of supply of atmosphere to that room. To secure and maintain a true 100 per cent conditioned atmosphere, therefore, a room must be hermetically sealed except for the vent through which the conditioning apparatus operates.

But in practical life nobody can remain in a hermetically sealed room. Certainly no business could be carried on in one. Fortunately, however, the *practical* achievement of a very high degree of air-conditioning does not demand this.

Before going any further, let it be explained that in this preliminary outline we shall touch on air-conditioning only as applied to offices. We shall leave till another article its application in factories, because entirely different considerations then have to be dealt with.

For the maintenance of health, bodily vigour, and working efficiency the human being requires air that is free from solid irritant matter and air-borne germs, that is of the right temperature and degree of humidity and of adequate volume continuously supplied without draughts.

Air-conditioning involves many technical factors, but the business man should not bother about any of them. All he need do is to realize the advantages to himself and his staff of being able to work, throughout the year, in an atmosphere that is *always* at the point of maximum ideal.

Many business men still think they are equipping their business premises in an ideal way if they have effective heating by ordinary means (radiators, etc.), and ventilation by open windows.

Well, compared with this means, air-conditioning is as the modern motor-car to the old horse and buggy.

It is fundamental that effective and healthy "heating" in the cold season depends entirely on the degree of atmospheric humidity. Ordinary steam and other systems ignore this. Effective and healthy "ventilation" depends on the purity of in-coming air. Open windows likewise ignore this.

Air-conditioning, on the other hand, in the cold season, provides controlled heating *balanced* with the correct degree of humidity.

In warm weather ordinary systems can do nothing at all for the atmosphere of offices. But air-conditioning constantly circulates cleansed, *cooled, and de-humidified air.* It also introduces another tremendously important advantage . . . that of *silence,* or rather, reduction of noise to a minimum.

An air-conditioning installation implies the complete sealing of all apertures to the outside air. This at once provides insulation from street and other extraneous noises.

Now what does it cost to have air-conditioning installed? We will assume you have been in your offices for some years and want to introduce modern air-conditioning.

There are self-contained air-conditioning units for this. Beyond arranging for the vent through which they must draw air, they need nothing more than an electric contact. They plug into the mains just like your radio.

For a room of 4,000 cu. ft. capacity, accommodating, say, eight people, you can have a unit capable of giving a complete change of conditioned atmosphere four times an hour. The cost would be round about £100.

Of course, we are speaking very broadly, but for all single offices up to the size just mentioned, you can reckon £100 a room.

With these units no structural alterations to your building are involved, so for this price (exclusive of the small cost of current), you get a guaranteed ideal atmosphere the whole year round.

And consider, the air you breathe is *purified.* The risk of colds and illnesses from other air-borne germs drops almost to zero, while, as we emphasized just now, your nerves enjoy that enormous relief from noise.

●

Material Gives Dustproof Room Construction

BY using ferro-concrete construction for walls and roof, a Lancashire furniture manufacturer has been able to overcome entirely the dust-proofing problem associated with this type of work.

The chief difficulty has always been designing and making, at low cost, a perfect seal between walls and roof. This modern material has made it possible to overcome the snag. The cost factor is such that the job can be carried out economically by even the smallest manufacturers.

Several firms with paint-shops or similar work-places have adopted this idea recently. It has not only led to less spoilage in finishing processes but has cut down cleaning costs and has reduced wastage by, in some instances, 15 per cent.

●

Here's A New 'No Fire Danger' Heater For Use In Factory or Office

A NEW type of heater which is especially suitable for use in offices, workshops, and other business places has just been put on the market by a well-known firm of electrical goods manufacturers. Some of the outstanding features of the heater are: (1) economic in use; (2) even distribution of warmth; (3) casing remains cool and there is no "exposed" heat to cause damage to near-by equipment; (4) thermostat control.

The principle employed is that of natural convection. The heater warms and circulates the air. It gives a space-heating efficiency of over 95 per cent.

A unique factor is the differential thermostat-control. This allows a 6-degree F. fluctuation in the level of temperature, a range which is recommended by medical authorities as necessary to keep a "live" circulation of blood in the skin-tissues and thus prevent lassitude and fatigue.

The heating element is entirely enclosed. Even if the machine falls over on a pile of office papers there is no danger of fire. The cover always remains at room temperature and not that of the element.

Another point of convenience is that the heater can be moved from place to place. The thermostat is built into the machines and therefore there is no interference with mobility.

Models are available for A.C. and D.C. mains of 200/250 volts. The small type weighs 20 lb., the large type 39 lb. It is claimed that the machines give a current economy of up to 70 per cent.

Internal Transport Costs Cut By This Flooring

A MANUFACTURER in the Midlands has halved his internal transport costs by replacing his rough flooring with one made of concrete. The saving to date has come from less wear and tear on vehicles.

Other advantages which have come from the change are these: by applying a proprietary case-hardening mixture (silicate of soda type) the floors have become dustproof; the surface is now non-skid, thus almost eliminating slipping accidents which were frequent. Cost of repairs has been reduced practically to nil.

I am the new INDIA commercial vehicle tyre

The India Tyre & Rubber Company.—long famous for high grade commercial vehicle tyres have now, as a result of intensive research into the requirements of modern transport operation, produced a new range of COMMERCIAL VEHICLE TYRES which embodies the results of this specialised knowledge.

THE MARK OF SERVICE

1855

BUSINESS Road Test No. 4 (*Continued from page* 18)

fuel economy. But still, as we all know, economy in fuel for level road work may be gained from "thin" mixtures which are not so good when it comes to general performance over any kind of road.

We thought of that, so before handing out any praise decided to watch the vehicle's behaviour on reasonably stiff hills.

By making a detour from the main road we ran into hilly country where several gradients of 1 in 8 and 1 in 6 are to be found. Hills in the order of 1 in 6 are easy work for this 5½-tonner when second gear is used, and then there is engine power in reserve. With bottom gear we found a 1 in 4½ slope to be just a routine climb, but such performance is seldom required under ordinary haulage conditions.

Thus far, we were quite satisfied that fuel economy is not achieved at the expense of performance.

FACTS AT A GLANCE

Vehicle Tested: Albion 5½-ton Drop-sided Lorry.

Makers: Albion Motors Ltd., Scotstoun, Glasgow.

Capacity: 5½ tons.

Body Length: 15 ft. 6 in.

Wheelbase: 14 ft.

Fuel Consumption: 12¾ m.p.g.

Pay-Load Ton Miles Per Gallon: 70·4

Max. Gradient Climbed: 1 in 4½.

Annual Tax: £30.

Vehicle Price: £536.

Turn of Speed, Too, When You Need It

"As a matter of curiosity," our business observer next remarked, "I should like to know how fast this machine will go, because one often gets pushed for quick deliveries and then even 30 m.p.h. seems much too slow."

Resisting the temptation to tread on the accelerator on a clear road, I turned to the driver and asked: "What about it, Jock?"

"She'll do an easy forty-five, sir, if you want it, but that's not one of our official claims."

There are other ways than short bursts of full speed of determining truck engine power, such as tests of acceleration. The quality of acceleration has a far greater influence upon good average speeds over long journeys than illegal speeding, which also makes for heavy maintenance bills.

If a fully-laden 5½-tonner will get away readily from a standing start on top gear, you can be sure that the clutch is strong enough to stand up well under ordinary treatment. At the same time, the engine has to put out a very efficient torque to put the drive through to the rear wheels steadily. The Albion withstood this test well and reached 30 m.p.h. in just over 41 seconds. *But this procedure is not recommended for anything but test purposes.*

A more practical acceleration test is that in which the gears are engaged progressively in the normal manner, which calls for an engine instantly responsive to the accelerator, quick and positive clutch action, and easily worked gears. Here, again, the test produced first-class results, for the Albion took only 26 seconds to gain maximum legal speed.

Factors That Enable Reliable Schedule-Building

As a test for engine flexibility, productive of good acceleration while running in top gear, we timed the Albion while its speed on direct drive was increased from 10 to 30 m.p.h. and got a stop-watch reading of 25 3/5th seconds. All the results appear to satisfy operating requirements and suggest that even when working out delivery schedules at reasonable average speeds, quite a good time factor is obtainable.

Having discovered nothing so far suggestive of impaired reliability resulting from intensive mechanical "slimming", we had a go at the brakes.

Because brake drums of generous dimensions are rather heavy components, some lightweight truck builders have adopted brake layouts which give outwardly good results, until continued stressing finds out the weak spots. Then unduly light drums, under the influence of heat produced by braking on long hills, begin to distort either temporarily or permanently and retardation fades out.

After having deliberately induced high drum temperature on a suitable down grade, I made a stop-watch test from 30 m.p.h., when the Albion pulled up without wheel-spin or skidding in a little over 3 seconds.

This satisfactory brake test produced no tendency for the bricks to pile-up against the back of the cab, thus demonstrating a truly progressive and even brake action.

On arriving at the building site where our load had to be dumped the Albion suspension system underwent some very severe treatment. Once off the hard highway we had to drive over a roughly laid timber track for some distance and then through a veritable quagmire, churned up by contractors' lorries, before pulling into the required position. We let the driver do that part of the job because the brick-merchant and I wanted to look for any signs of undue give in the chassis frame or bodywork. At the end we both agreed upon the quality of Albion lightweight technique, and after an easy run home my companion described the Albion as "just the kind of truck" for work of the kind.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

APRIL, 1938

"... it is an easy matter to run off a thousand or two at very short notice, whereas, if we had to wait for the printer a job like this would probably delay us a couple of months."

says J. W. HAMILTON-JONES, Managing Director of the Wahl Eversharp Company, Limited.

In the same letter, Mr. Hamilton-Jones also says: "When I was first induced to put a small Masseeley into our Advertising Department, we had in mind merely the production of price tickets and small 'Eversharp' logotypes.

"It was not long before we found that we could use the machine in many other directions to give better service to our dealers, particularly in regard to colour schemes; and from small price tickets we began to make small runs of showcards.

"The introduction of the Hot Press, combined with our former experience, led us to attempt the production of longer runs of display material, and we are now producing a variety of both window display cards, price tickets, and also cards for the display of the actual merchandise. We have three full-time operators, and manage to keep them busy all the year round.

"The principal reason why I am so satisfied with the Masseeley Hot Press Unit lies in the fact that it is possible to design a card and to modify it or alter it half a dozen times until we get the exact requirements, and proofs of these alterations can all be submitted within a day or so."

● *Only one thing need be added to this statement:*

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Masseeley Building

HOWICK PLACE WESTMINSTER S·W·1

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BUSINESS ACTIVITY FACTORS OF THE U·K

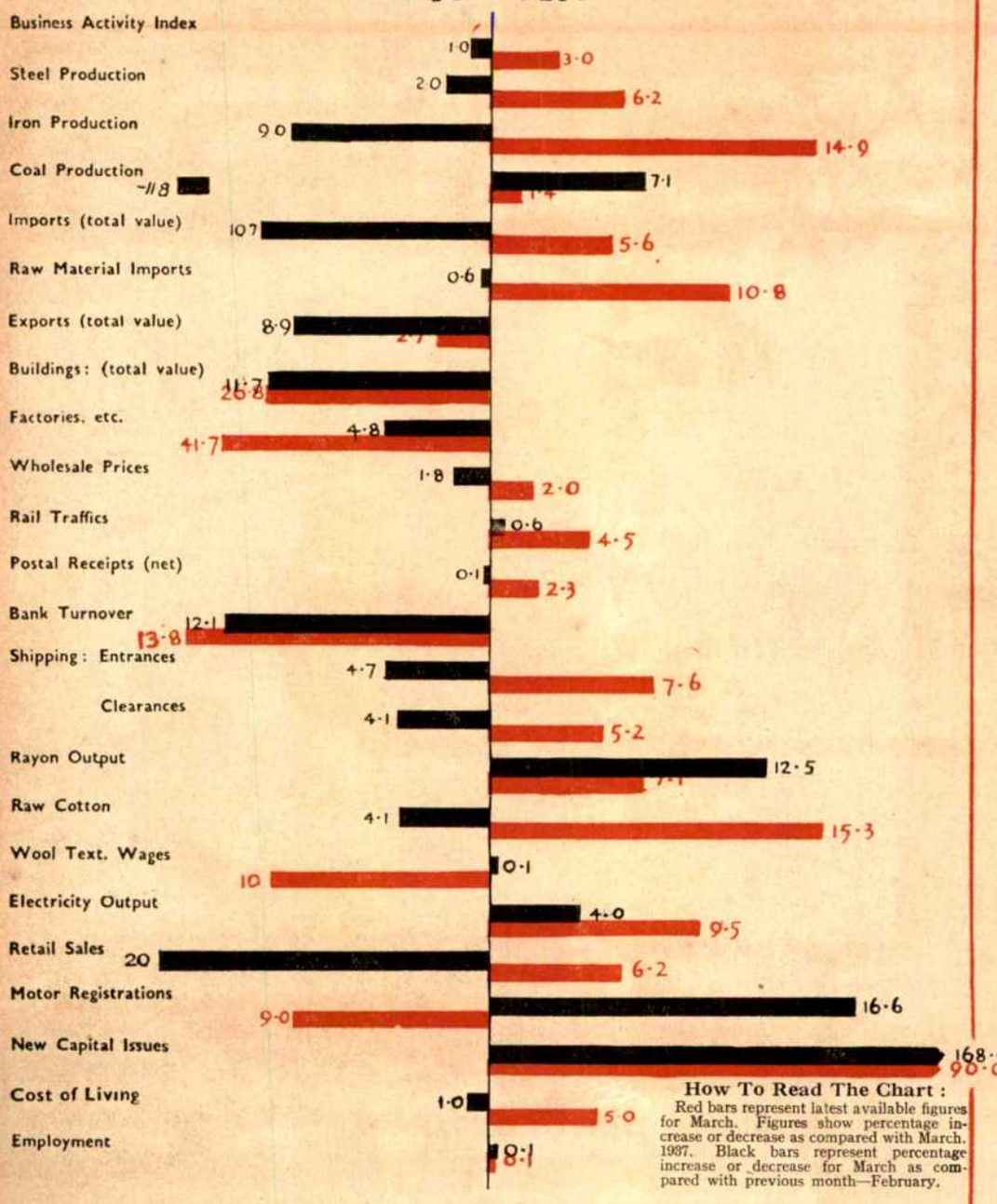
Is your business running at a level 3 per cent above that of a year ago? It ought to be, for that's the average activity now of the nation's business.

Use this bar chart as a measuring stick for your business. A few minutes' study and current condition of the chief channels of trade can be seen. These latest figures, for instance, show that iron, steel and coal production are all up, that wholesale prices, rail traffics, postal receipts, shipping, rayon output, employment, etc., are ahead of last year's level.

By using this chart you can keep informed on the trend of trade, valuable knowledge that helps in long-term business planning.

22 VITAL FACTORS

MINUS : PLUS



How To Read The Chart:
Red bars represent latest available figures for March. Figures show percentage increase or decrease as compared with March, 1937. Black bars represent percentage increase or decrease for March as compared with previous month—February.

THE BUSINESS TREND

Busine

By CE

WITHIN a month pa
the European map
been re-drawn; the
of American finance has
from his high pedestal;
largest air and chemical com
have been heavily under fi
other words, a further seri
shocks to confidence on the
and foreign fronts.

Yet business has stood
Even financial confidence
been very quickly restored.
reverberations from Vienna
lasted longer in Throgmorton Street, w
underlines the advantage o
curing sound financial fou
tions before attempting ex
sion after a slump.

Nerves Everywhere, Bu No 'Sellshock' In City

THROUGHOUT this
series of nerve storms B
business has suffered little.
details of damage have con
hand, although a month
elapse before complete stat
are available.

The same is true of the
and post-Christmas depressi
the retail trade that cause
much talk. It was said
increased taxation and
rumours were making
wealthier classes pull in
purse strings. The sales of b
class women's goods were sa
be almost dead.

Yet what do the full fi
show? An average increa
7.6 per cent in shop sales i
12 months ending 31st Janu
Even the February sales fi
were 6.2 per cent above thos
last year, which were e
tionally good. Only Ce
London suffered during the
6 months. Even here the
have not fallen below last y
record figures.

The Board of Trade's R
Sales Index has been criti
just recently as inaccu
"owing to the smallness o
sample." While this criti
applies to South Wales, I
satisfied that it does not app
any other part of the cou
where the sample is now ar
11 per cent on total retail s

ALFRED BATES & SON LTD
The NATIONAL Advertising Service
130, FLEET ST., LONDON

tands Fast

ISHOLM, M.A.

urban Shops Getting ir 'Sales Up' To-Day

HE striking contrast between sales of shops in ral London and the London rbs has obviously two es. One is the number of en's stores selling expensive s in the West End; the id is the success of the larger rban stores and shopping res in satisfying their local pers at home. Possibly road estion has proved a helpful in this direction.

ır sales alone justify pessin as to middle-class buying. n the eight h.p. class failed to up in January.

ne rise in employment further radicts reports of a Christmas ıp, even if it does not amount he normal improvement of ruary. There are still 20,000 e people at work than at a ago but the number of tered unemployed has risen 38,000. In other words, we not able to take care of the entrants into industry out causing unemployment ng older workers.

Business Regional Indices

pite shocks and unsettled conditions, ss continues to bear up well. Look at regional activity indices. Only the st drop is recorded for February—a when any recession would show up in way.

es and Scotland February figures are iven, as some of the vital statistics d in the calculations are not available. epare a figure without these facts might false reading of the position.

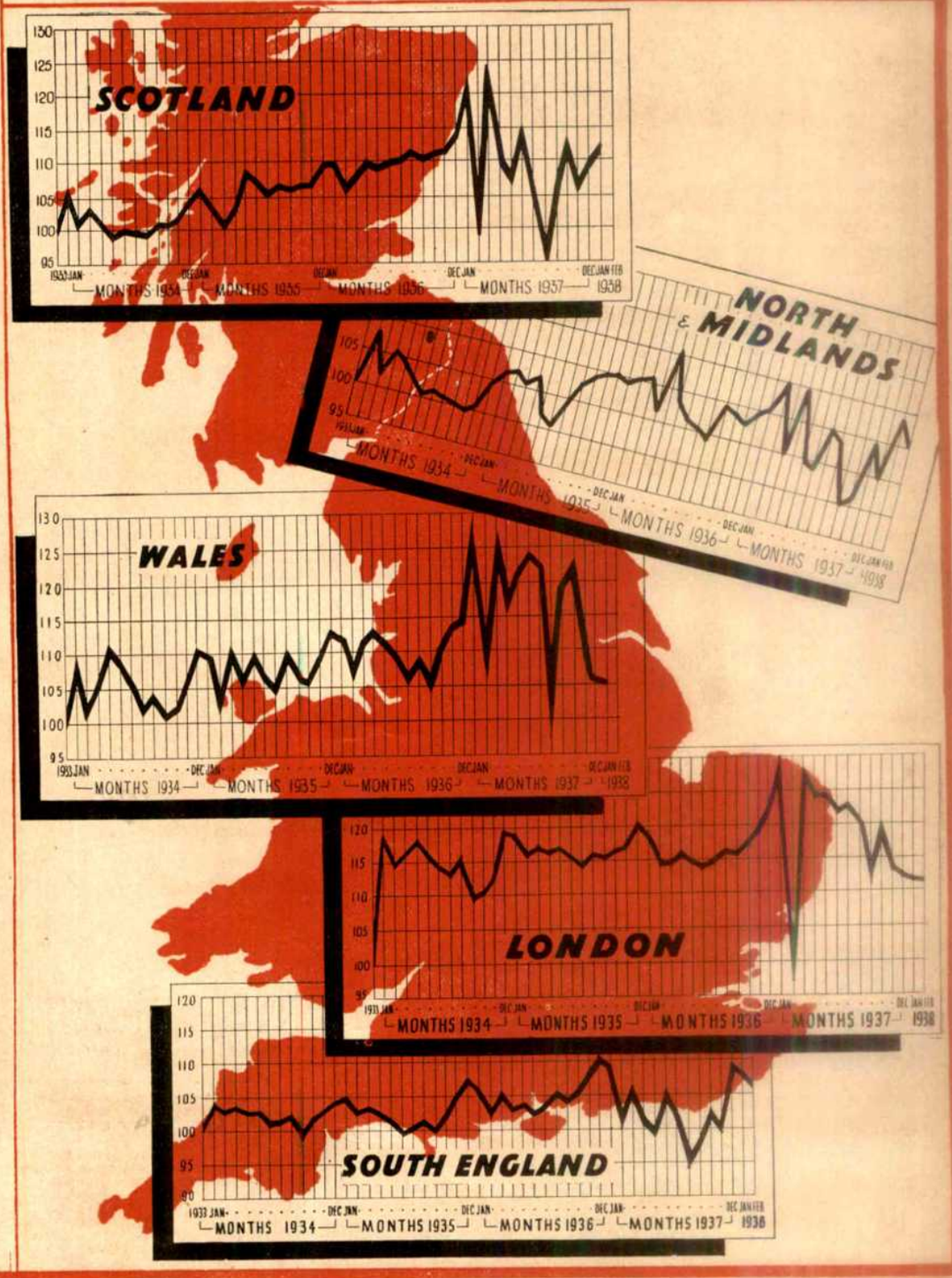
London the drop, from 112.2 to 111.3, than 1 per cent, a remarkably good which reflects the high level of retail in the metropolis. For the South, now the level of activity has fallen by less 2 per cent. Both London and South s have, no doubt, been affected by the e in building, that key industry which ays somewhat slack at this time of year. effects of the recent slight recession are marked now in the Midlands and the . A decline of 4.7 in the figure as com- with the previous month—from 108.7 .0—reflects the recent rise in the num- unemployed, lower bank returns, and p of intense industrial activity. Most however, with the seasonal upturn in now on its way, plus the renewed y of industry, the next figures will an improvement.

atest figures are, of course, provisional. e whole, the charts certainly show the ess of conditions in all regions. The index throws up this steadiness in a nced way, for the decline for the of the kingdom is only 0.2 per cent. creditable and encouraging.

Reading the Indices

these new indices, the average busiactivity in each area during 1933 is as the base (=100). The indices are by months.

BUSINESS REGIONAL ACTIVITY INDICES



53, LORD ST., LIVERPOOL
68, GORDON ST., GLASGOW
12, LEEDS RD., BRADFORD
25, NEW BRIDGE ST., NEWCASTLE
74, GEORGE ST., EDINBURGH

Woollen-Cotton Trade Now Shrinking Again

THE textile industries have been the worst sufferers during the past year. Unemployment is up in cotton by 12.6 per cent; in woollens and worsteds by 13.7 per cent. Imports of raw cotton, although they rose in January by 15.3 per cent, fell in February by 13.9 per cent in *volume*. This is a dangerous symptom.

India and South West Africa in particular are buying less cotton goods. The demand for woollens has shrunk both at home and abroad, at a time when productive capacity has been dangerously expanded.

Fortunately, Yorkshire acts much more rapidly than Lancashire. Four hundred of the worsted spinners are already investigating a scheme for the purchase and scrapping of redundant plant and, possibly, of price control. At the moment the cotton industry is employing nearly 52,000 less, the woollen industries 30,000 less than at a year ago.

Coal 'Faces' Better Working Conditions

IN contrast to textiles, coal is doing better. In Nottinghamshire alone 12,000 more men found employment last year; satisfactory wages are being paid and reasonable profits earned; altogether the mines are employing 38,000 more men than at a year ago.

Building remains prosperous; but the decline from peak activity was accentuated in February. The fall in total plans was 26.8 per cent, but the fall of 41.7 per cent in plans passed for new factories is highly significant. In other words house building in the north is not quite taking up the slack caused by the decline of activity in the south. And completion of most of the government's armament factories will very shortly leave a gap in industrial building; but with re-armament at its present pitch this decline in business activity can be taken care of.

You Buy From Us, Too, Is Government Policy

WITH an increasingly adverse trade balance and heavier armament costs involving larger imports of raw material than ever, the necessity to improve exports becomes more pressing every day. Soon it may become the predominant business concern of the Government. Every manufacturer with foreign markets can help. The Government itself is taking a hand through its efforts to make improved trade agreements with the United States and other countries, without prejudice to our Empire commitments.

Obviously the further increase in armaments necessitated by the German coup in Austria will make Budget balancing difficult for the Chancellor next month. The most conservative figures show a deficit of £30,000,000. Obviously this amount can be raised without recourse to the income tax, but equally obviously further taxation of the consumer will be necessary, with the usual results.

President Eases Big Stick Tactics, Placates Business

APART from the steadiness of British business the most encouraging feature of last month came from America. President Roosevelt's active policy against big business is to be modified. The results are already seen: spurt in building plans; steel orders up to 32 per cent of capacity; increased car loadings; greater steadiness of raw material prices; indeed the general evidence of a return to confidence. If American business should revive, it would quicken activity throughout all the raw material producing countries, providing a better market for many of British exports and bring money to every European producer of luxuries.

Despite March Scares Jobless Will Get Fewer

ON the whole British business has come out of the February crisis uncommonly well. A steadying of nerves will help to prevent any serious deterioration from our present high level of activity. Given the present level of confidence, the amount of unemployment will automatically be reduced between March and May.

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MENZIES
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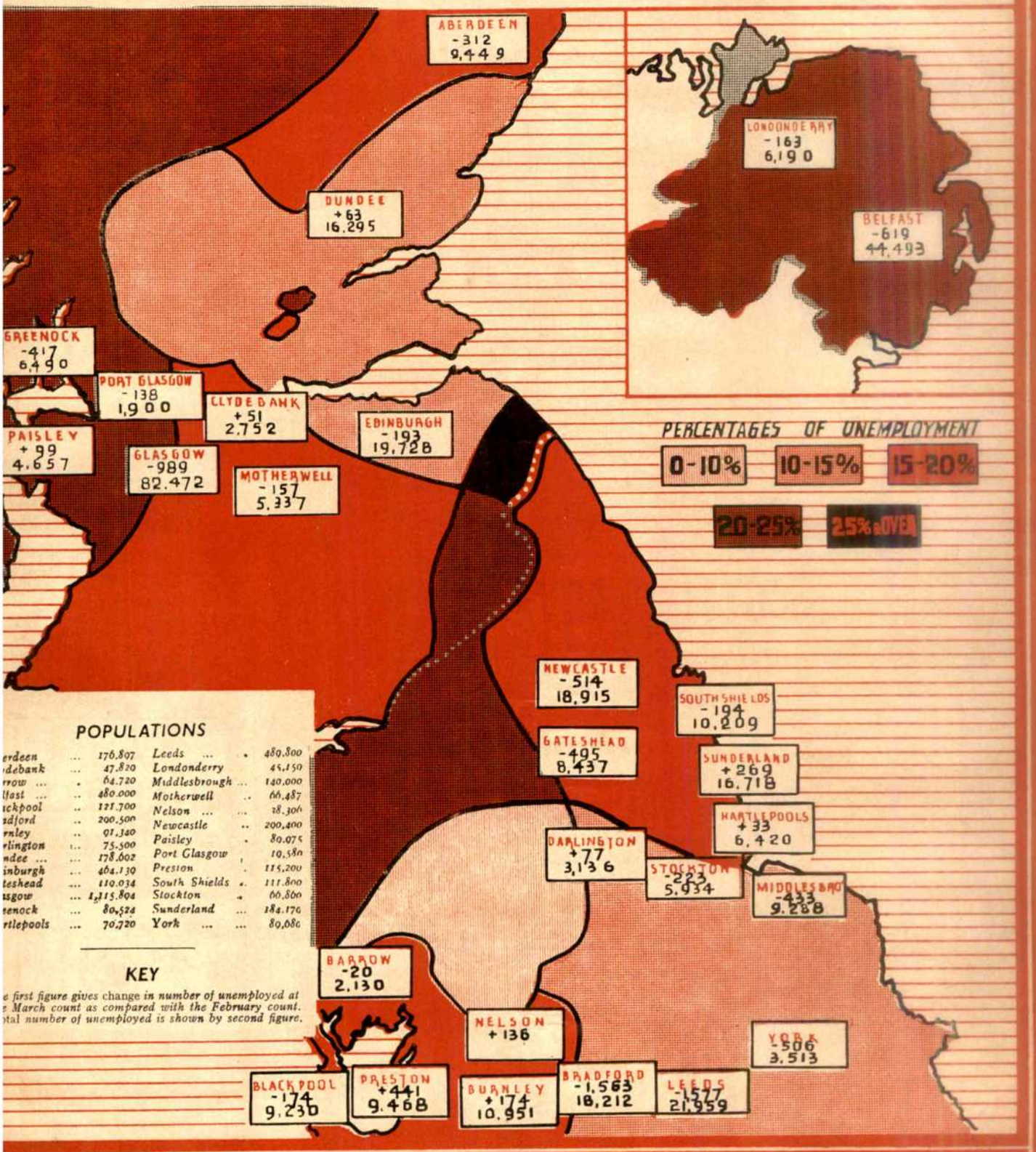
Telephone: Douglas 2354/5
Grams: Menzads, Glasgow.

"BUSINESS" SURVEY OF HOME MARKETS

SCOTLAND and THE NORTH



POPULATIONS

erdeen ...	176,807	Leeds ...	489,800
idebank ...	47,820	Londonderry	45,150
rrow ...	64,720	Middlesbrough ...	140,000
lfast ...	480,000	Motherwell	66,487
ckpool ...	127,700	Nelson	28,306
dford ...	200,500	Newcastle ...	200,400
rnley ...	91,340	Paisley	80,075
rlington ...	75,500	Port Glasgow	19,580
ndee	178,602	Preston	115,200
inburgh ...	464,130	South Shields	111,800
teshead ...	110,034	Stockton	66,860
sgow ...	1,115,804	Sunderland ...	184,176
enock ...	80,524	York	89,680
rtlepools ...	70,720		

KEY

e first figure gives change in number of unemployed at e March count as compared with the February count. otal number of unemployed is shown by second figure.

Scotland's National Newspaper

THE SCOTSMAN

should certainly be your first choice of media in Scotland for approaching unusually influential business and social markets.

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"I must get going with my exhibition literature"

If you are exhibiting at Glasgow this thought must have crossed your mind already. Perhaps you need help in the artwork or photography. Or maybe you want especially good halftones for your exhibition work. Let the K&C service show what it can do. If you have not already dealt with us we suggest you ask us more about ourselves. Make use of our post and rail service — it is very smooth running.

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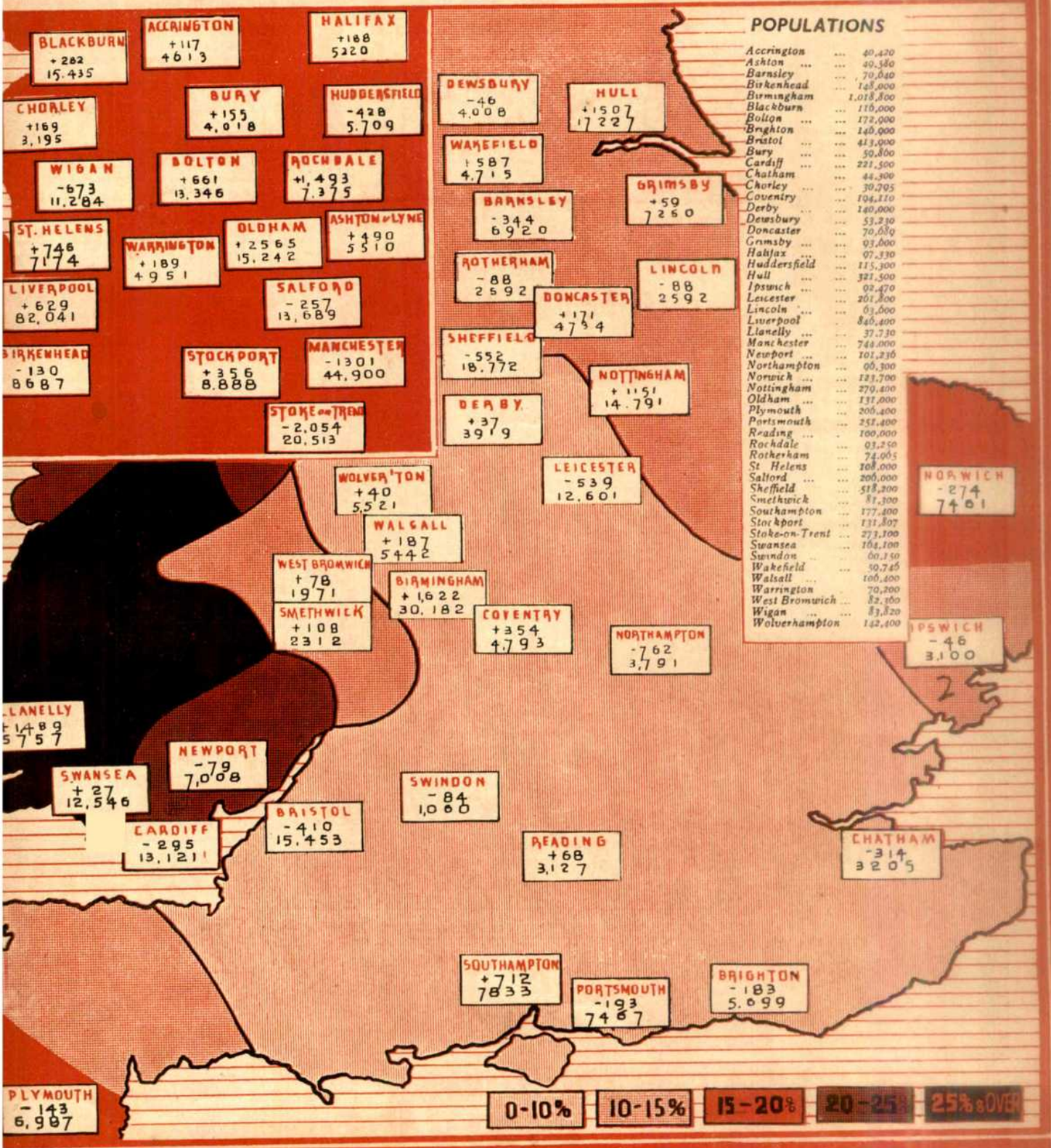
for particulars of this Business Building Se

"BUSINESS" SURVEY OF HOME MARKETS

SOUTH and MIDLANDS

ey: first figure gives change in number unemployed at March count as compared with February count. Total unemployed is shown in second figure



POPULATIONS

Accrington	40,420
Ashton	40,380
Barnsley	70,040
Birkenhead	148,000
Birmingham	1,018,800
Blackburn	116,000
Bolton	172,000
Brighton	140,900
Bristol	413,000
Bury	50,800
Cardiff	221,500
Chatham	44,300
Chorley	30,705
Coventry	194,110
Derby	140,000
Dewsbury	53,230
Doncaster	70,089
Grimsby	93,000
Halifax	97,330
Huddersfield	115,300
Hull	321,500
Ipswich	92,470
Leicester	261,800
Lincoln	63,000
Liverpool	846,400
Llanelly	37,730
Manchester	744,000
Newport	101,230
Northampton	90,300
Norwich	121,700
Nottingham	279,400
Oldham	137,000
Plymouth	206,400
Portsmouth	251,400
Reading	100,000
Rochdale	93,250
Rotherham	74,065
St. Helens	108,000
Salford	206,000
Sheffield	518,200
Smethwick	81,300
Southampton	177,400
Stockport	131,807
Stoke-on-Trent	273,100
Swansea	164,100
Swindon	60,150
Wakefield	50,745
Walsall	106,400
Warrington	70,200
West Bromwich	82,360
Wigan	83,820
Wolverhampton	142,400

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Here's *NEWS* of Active Home Markets

NORTH

Over 10,000 Workers are to be employed when all 80 or more factories now let on Team Valley estate, Gateshead, are operating. All this means extra buying power in area—Wage increases worth thousands of £'s yearly to shipbuilding and repairing yards just granted. Holidays-with-pay is also news welcomed by sales managers whose products sell in shipbuilding centres—Wallasey's latest public works will cost £38,000, to be spent laying out reclaimed foreshore. Most money will go in wages.

Revitalized North-East coast. with 32,000 more at work now than year ago, wages rising, shipyards full, coal, iron and steel industries booming, is buying more goods, fact shown in latest retail sales figure of plus 7.5 per cent—Industrial giant, Dorman, Long & Co. have 17,000 more men on payroll than in 1932—Work for over 1,000 miners soon to be available at South Kirkby, Yorks—£100,000 metal production plant at Jarrow has started production and 200 men are to produce 1,000,000 bricks a week at a new plant, Washington, County Durham.

WEST & WALES

Millions of £'s are to be spent by Bristol on construction work. New bridge at city centre, costing £24,000, to go ahead, £13,000 cinema going up on Knowle West estate, University of Bristol's three new buildings will cost £250,000—City's coastwise traffic up 14 per cent over year ago. By end of March, port expects new record of 4,000,000 tons goods handled in 12 months—Local firm, Stephen Carwardine & Co., Ltd., show Bristol's prosperity trend by announcing 7½ per cent dividend, week's wages bonus to all staff—Applications for Corporation's £2,000,000 loan oversubscribed by £56,000,000. Which indicates shrewd business opinion of Bristol. Good, too, as a market, free buying power being shown by £362,280 savings bank deposits for last quarter.

Welsh Wages Up as well as more work, is further heartening news. Steelworkers now draw higher pay than at any time since 1928-29; miners have had small increase, expect up to 10 per cent more; new factories paying good wages—G.W.'s total for trade of six big S. Wales ports exceeded 27,000,000 tons, highest since 1931. Coal played biggest part in increase, being 4,000,000 tons up on last year.

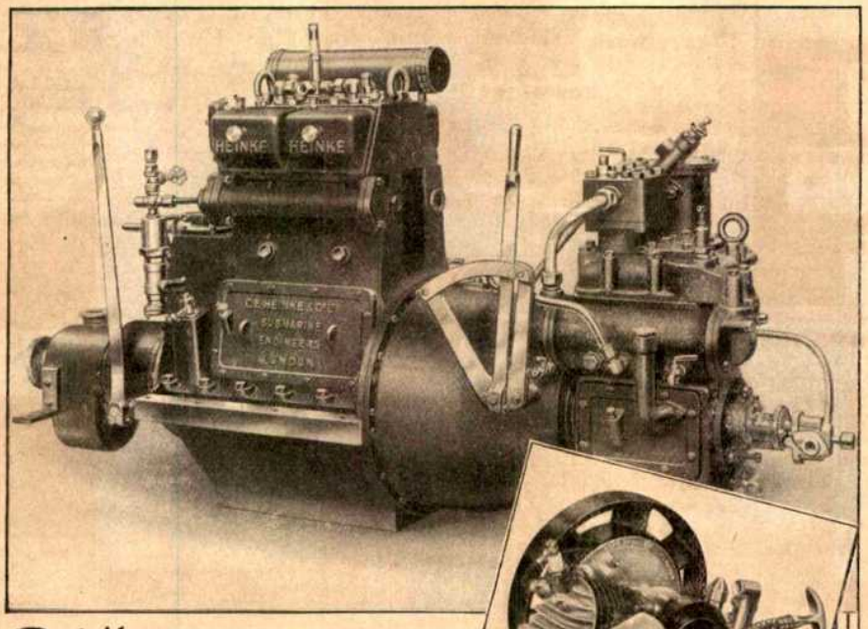
SCOTLAND

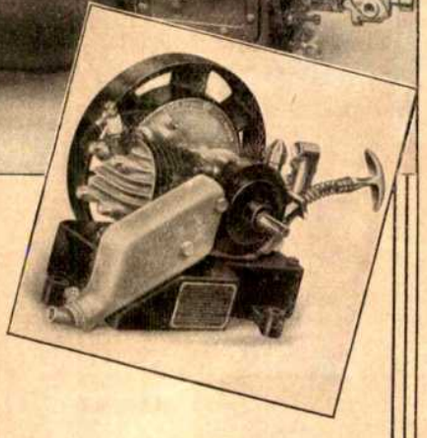
Distillery Reopening is good news from Clackmannanshire, where plant, derelict over 20 years, has been reconditioned and is employing 200 men—Glasgow's first newsreel cinema, seating about 600, is being built—British Aluminium Co., Ltd., last year sent 7,800 tons crude metal from their Kinlochleven plant, 10,000 tons from Lochaber works.

Three 12,000-ton tankers is newest shipbuilding order for Clydeside, two to be built by Blythswood Shipbuilding Co., one at Lithgow's—Beardmore's Dalmuir shipyard, idle since 1931, is to be reopened for industrial development—Scottish mining industry's output is now over 550,000 tons a week; wage-earners number 91,000.

£50,000,000's are Going to Scotland from rearmament money. Clyde's shipbuilders are constructing two battleships, three cruisers, 17 destroyers and 11 other ships for Admiralty at the moment, additional work being promised. Other Scottish centres are building at least seven navy vessels—Arms, ammunitions, aeroplane parts are also included in Scottish rearmament work. Air fields, hangars, etc., too, are part of scheme; over £100,000 now being spent on this work, officially. Much additional work is being planned. Of £50,000,000 admitted official expenditure, £40,000,000 is going to Clyde districts.

Stimulating Beef Demand is the aim behind £20,000 publicity campaign planned by Scottish farmers and interested business groups—Dumfries and Inverness have both reduced electricity charges, encouraging further use of electrical appliances—North Hillington estate has received another six inquiries for factories.





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Marketing TRENDS . . .

Current Facts that will help in Shaping your Sales Campaigns

By the
MARKETING EDITOR

Will New Pleasure Parade Find Record Sales Made?

THEME song for many marketing men this summer is "holidays with pay". With at least 1,000,000 more workers slated for 7 days' paid whoopee, bringing total to over 5,000,000, minimum of £15,000,000 cash will pass over counters, stir blasé resort retailers to admit business is good. Point is: will business be good for you?

By planning now, reserve a record summer sales figure. Many firms are (a) projecting sales based on last year's figures, providing for 20 per cent increase; (b) checking up on retail outlets at all holiday resorts; (c) opening up new accounts; (d) looking for unusual outlets such as beach kiosks, side-shows, etc. One novelty manufacturer, for example, is using seaside cafés for the first time.

•

Holiday 'Hoards' Will Bring £'s by Millions

MAYBE 13,000,000 workers now without paid holidays will join the joy trek; certainly some of these will this year. Which suggest you should not pooh-pooh possibilities of sales to merry-making multitudes.

Industries directly concerned with holiday trade are preparing in a big way. For example, L.M.S. are spending thousands of £'s improving refreshment rooms, getting pleasure boats into sailing order for unprecedented rush. Resorts serviced by this railway are spending over £3,000,000 on improvement schemes to cope with record crowds. All other railways and resorts are pouring out Peppiatts in similar fashion.

First to feel impact of this mass pleasure move are textile manufacturers. As even shark-natured boarding house landladies must furnish attics to pass them off as bedrooms, household textiles are already selling well. Latest reports indicate heavy buying by retailers of sports wear, holiday clothes, novelties, etc., suggest that records will be broken.

This trend points to ready market. Can you sell here? If so, now is the time to get busy.

•

Use A Three-Point Push To Capture The Markets

ANALYSIS of this holiday market shows three main divisions: (1) interested industries, which include all transport companies, hotels, boarding houses, holiday organizations, etc.; (2) holiday makers, in the act; (3) holiday makers, before and after.

Selling to the first group should be done now. Distribution for sales to the pleasure seeker at his or her pleasure spot should be arranged in the coming two months.

Market number three is more difficult. It needs detailed investigation of holiday periods in individual localities. Then you can arrange to sell goods that holiday makers will take away with them, prepare to sell food, drink, household goods needed on their return.

•

Witch-Doctor Minds May Mar Your Marketing Plan

YOU may think witchcraft these days is confined to fairy tales, but the influence of the black arts may still touch your sales. Most persistent form of hangover from days of spells and changelings is superstition. Do not laugh. Love potions are still sold—not in Persia or the Fiji Islands but in 1938 Britain.

Hear about the experiences of two manufacturers I met recently? One marketed a woman's product at 13s. retail. Sales were slow until several dealers suggested the price was "unlucky", scared off customers. At 14s. the product sells well.

Up Lancashire way a hardheaded tie manufacturer produced a "peacock" range of natty neckwear. Peacock motive gave it a top-quality touch, brought it into discerning, wealthy markets. Best of these, theoretically, was London, but it flopped. Why? There is a superstition in the world's number one city: it says peacocks are unlucky.

Maybe these superstitions are not vital factors in marketing because they are not generally held. If you sold walks under ladders, for instance, such irrationality might bankrupt you. But it is well to look into this angle, find out if any strong local bias will be harmful, especially as there seems to be a recrudescence of belief in soothsayers and the ilk.

How A Big Market was tackled though Vested Interests barred the way *See page* 13

Area Try-Outs give Key to National Advertising *See page* 14

•

Decentralization as Means of Increasing Total Sales?

LATEST important marketing policy comes from a famous department store, proposes decentralization as a means to increase sales. Single-shop units for sale of specific classes of goods is held to give more scope to the public to buy. Reasons: shops can be located in selected centres, are easier of access than crowded big stores. It is also suggested that single units are more economic to run than big stores, costly to build, costly to maintain.

Action may be taken on these views this year. If so, it is a matter of vital interest to marketing practice.

•

'Pacification' Executives Paid These Manufacturers

JEALOUSY and disagreements between dealers in the same district have adversely affected many sales schemes, especially in local sales drives. Troubles often are petty, but they take up representatives' time, loose displays and sales—sometimes close up good retail outlets.

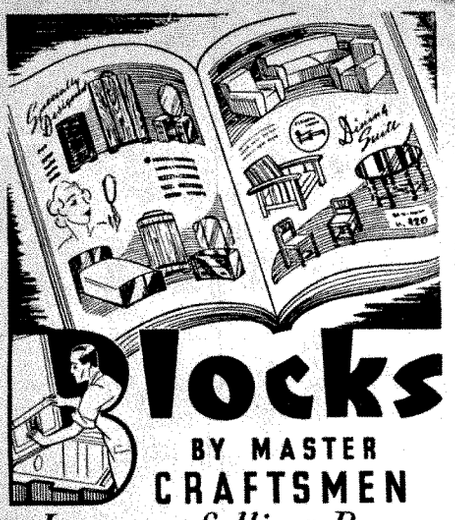
At least three manufacturers I know have successfully introduced "pacification" executives. These men go to trouble centres and iron out difficulties, get more co-operation between dealers.

•

Price-Cut Pirates Sunk By 'Side-Step' Salvos'!

BATTLE between manufacturers of fixed-price goods and cut-price operators, though quiet nowadays, still goes on. Latest cannonade fired against the pirates is policy to sell direct to retailers, side-stepping wholesalers.

Two manufacturers — Yardley and Schick Dry Shaver—give good examples of this trend. Recently anyone could go to a wholesaler and buy Yardley scents and cosmetic for cash. Result: price cutters made easy hauls. Now sales are direct to dealers. Pirate stores can only buy through retailers—if they can find a shopman who is willing to split part of his discount. And this happening leads quickly to blacklisting the dealer, as all goods are coded, therefore traceable to the individual.



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Phone: Holborn 4894

Breaking Into a Big Market

(*Continued from page* 14)

papers. I might add that the campaign was modest. We took space in *Milk Industry, Dairy Industry, Farmer & Stockbreeder, Dairy Farmer, Farmer's Weekly* and *Home Farmer.*

In each case the value of the paper has been judged on a costs-per-reply basis. For instance, during this last twelve months the paper with the best results showed a cost of 14s. 10d. per reply *named,* the next best £1 6s. 10d. per reply *named.* "Named" replies represented 25 per cent of total replies received: it is fair, therefore, to say that the costs per reply of the two papers quoted were about 3s. 8½d. and 6s. 8½d respectively.

Now that we have big expansion schemes on hand our policy is being changed to meet new conditions. The enlarged capacity of the Perga plant at Sydenham, Kent, and the opening of a new factory at Team Valley estate, Gateshead, will enable us to double our production by the end of this year. We are now planning to double our sales.

Two other moves which will help us to sell 3,000,000 cartons a week are: (1) we are doubling our advertising appropriation; (2) we are teaching, through the mail, our customers' milk-roundsmen how to sell milk in cartons.

One of our big selling points is that the user's business can be expanded through the use of Pergas. We are now helping the dealer to take advantage of this fact. As it is true that a roundsman can deliver twice the amount of milk if cartons are used instead of bottles, he can, therefore, do twice the amount of business. For instance, two full pint cartons weigh only as much as one full pint bottle. This means a roundsman can carry twice as much. Furthermore, he does not lose time collecting empties, also the handing of the product on the round or at the dairy can be done much more speedily.

These factors provide the roundsman with more time to sell milk to new customers. But most roundsmen do not know how to sell. We are tackling the problem by providing each man, through the co-operation of the dealer, with a course of instruction in selling. We tell him how to approach a prospect, how to develop his argument in favour of cartons, how to explain each point and meet all possible objections. Experiments with this course has revealed big possibilities and that it will help us reach our 3,000,000 cartons a week mark.

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—*The Times*, 15th March, 1938.

CALCUTTA CENTRAL LIBRARY UNIVERSITY

BY THOMAS DIXON

A TRADITION has grown up that the men who are doing the greatest commercial work of the world show very few signs of their activities. We are bidden to gaze upon the empty desk of the great captains of industry and to reflect that if we were really efficient our own desks would be just like that.

No doubt the man who has at his beck and call the assistance of a dozen experts can keep his desk reasonably clear. His job is to see the possibilities of any subject that comes before him, make his decision and turn over the execution of his ideas to someone else. That, of course, is the only way really big business can be conducted, but it demands very remarkable qualities of mind.

Not every business man, however, is a captain of industry. Not every one can afford to maintain a corps of specialists to take off his hands any job of work he wants done. Willy-nilly, he *must* do a great part of his work himself. And so, strive as he will, he seldom reaches the ideal of "the clear desk". Always there is something to be done—usually a great deal too much: new matters pour in upon his attention faster than they can be disposed of: papers accumulate until he feels himself in peril of suffocation.

How shall he reach the ideal of "Never idle but never fussed"? How shall he so keep things moving that, while he has plenty to do, he is never driven to frantic haste?

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VOL. LXVIII

BUSINESS

No. 5

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MAY, 1938

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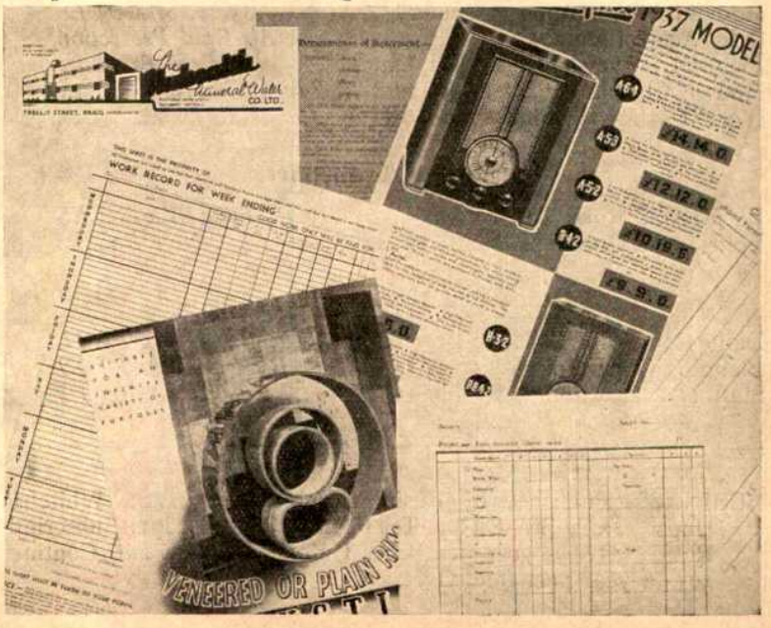

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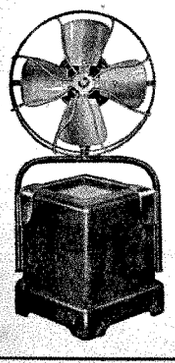

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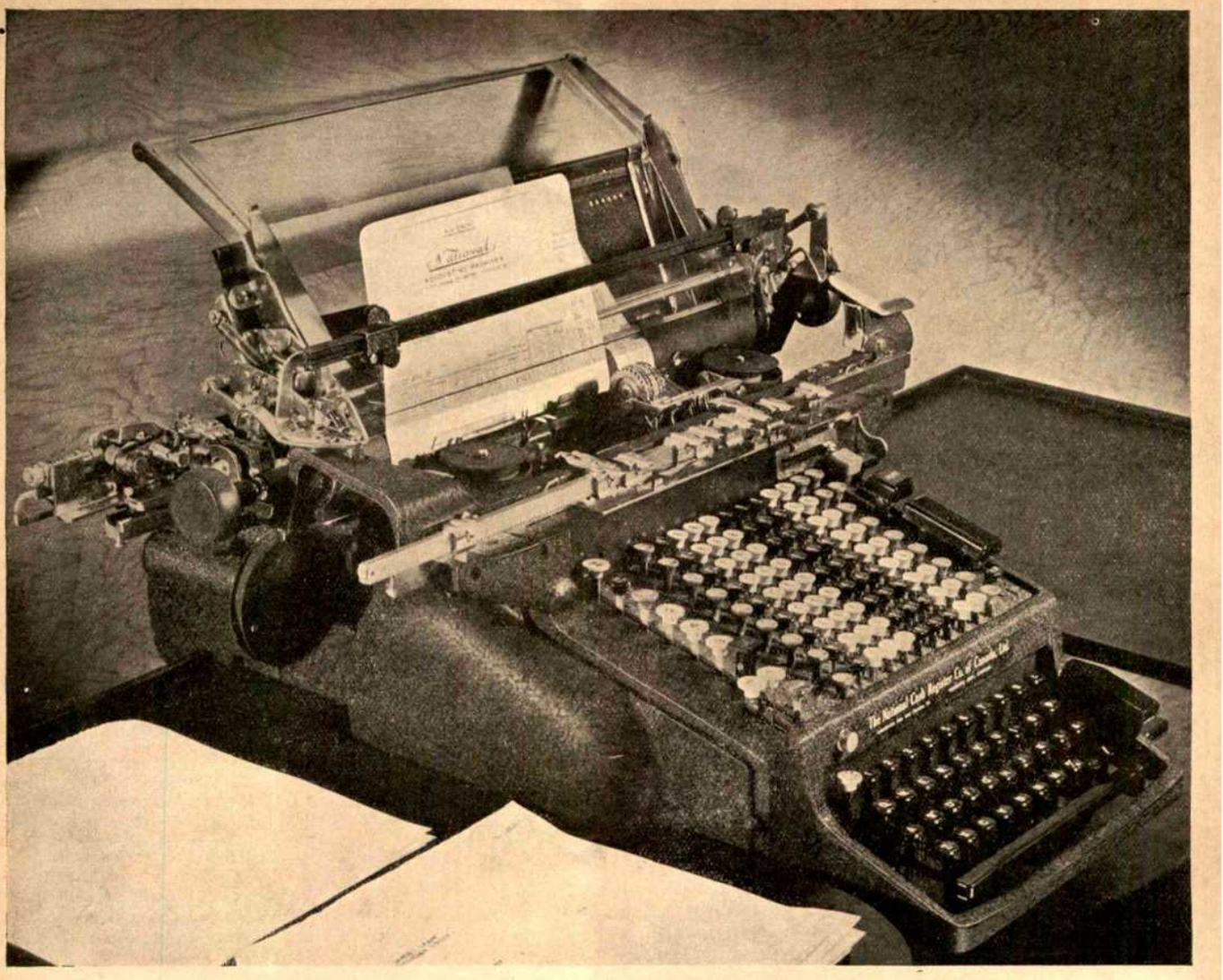

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'DILUTION' of Labour

Are You Making Plans to Meet *The Fresh Problems That Will Arise?*

How to find, train and fit in raw employees for new classes of work: How to train existing employees for promotion into key positions: How to simplify machine operations so that less skilled operatives can do the work. These are some of the problems that must be tackled under a scheme of 'dilution'.

NEGOTIATIONS (at the moment of writing) with the engineering employers, trade unions, and the government are still pending in regard to the matter of the "dilution" of labour.

The state of partial national emergency that has brought this factor into prominence is of serious importance. While, therefore, the decision on the point of dilution remains unofficially settled, there seems no alternative to dilution, at least in some degree, being agreed to in the very near future. The agreement may indeed have come into effect by the time this paper is in the hands of readers.

Whether this is so or not, manufacturers in the many industries and allied trades affected have everything to gain by surveying in the meantime ways and means of putting dilution into effect and of planning the changes in the methods of management and control that will be necessary under the new conditions.

The problem facing the manufacturer, very broadly, is this: making good the skilled labour that has been (and still is being) drafted into specialized work on armaments of all kinds.

What the manufacturer has to do to meet this situation is (*a*) to find, or somehow create, as much additional labour of sufficiently high standard to do the work of the men that are gone, and (*b*) to reorganize his production methods as much as possible to make operations more simple so that they can be readily undertaken by the new drafts of less skilled labour coming in.

Exactly this sort of thing, on a much intensified scale, of course, was necessary during the Great War. It was to meet the acute emergency of that time that women, to a large extent, had to take the place of men.

That substitution, regarded generally, was an outstanding success. In fact, the production director of one of our biggest manufacturing concerns (engineering) to-day told us last month that "the women swept the board; we should prefer, even to-day, to revert to 90 per cent women in the shops of our organization".

"Would it be possible," we asked this director, "for women to take over right now the actual work that your skilled men are doing?"

"Now you touch on a vitally important point," he replied. "What is a 'skilled' man? In this factory we manufacture scores of thousands of precision units a year, yet very, very few of the manufacturing operations actually demand the work of 'skilled' men.

"What we have developed in the past fifteen years is this: systematic planning on the office and the purely scientific sides of the business to such an extent that actual operations have been broken down to a simplicity that comes as a revelation to those who come to look at them.

"The office planning side to-day simply issues to the works a perforated card that represents the complete job in its minutest detail. The purely technical side has selected the material, the tools, the tool set-ups, the methods of handling and the machinery for handling. It has planned the operations and broken down those operations to the utmost simplicity. This simplicity

IN engineering manufacture and assembly many of the processes have, by scientific management, been reduced to such simplicity that, with proper supervision, they could readily be taken over by unskilled workers or by women. Scientific planning has, in effect, removed to the sphere of higher management much of the responsibility, for 'skill' that formerly was vested entirely in the factory personnel

has been possible because the plant is so tremendously capable.

"The result of all this development and planning by the higher management is that operations in the works become virtually a matter of 'button-pushing', notwithstanding the fact that the items being produced are large and complicated articles of high engineering precision.

"It is definitely a fact, therefore, that women *could*, here and now, step into our shops and replace probably up to 90 per cent of our men.

"I will go further: women would do *better* than the men. We should prefer them. By their delicacy of touch, their dexterity and, above all, by their mentality (which makes them superior to men at repetitive work) they would repeat their war-time performances in reducing unit costs."

This very illuminating opinion, based on actual experience, is very important indeed. It is a valuable pointer to other manufacturers.

The pointer is this: *management*, by careful, scientific planning, can vastly reduce the burden of responsibility that normally rests on the production personnel. It can remove into the sphere of higher control much of the skill formerly needed in the factory, and can correspondingly reduce a great proportion of the factory work to mere "button-pushing". The need to rely so much on "skilled labour" and all that it implies is therefore largely overcome.

Of course, that is stating the matter very broadly. It is, however, precisely what has been done in one of the biggest engineering works in this country. It is there for all to see. And what has been done in one manufacturing concern can also be done, in principle at least, in any other factory where comparable work is being carried out.

As an accomplishment it is well worth studying at any time. But in view of the present emergency caused by the shortage of skilled labour, it is more than ever a matter worth investigating, if only for the possibilities it has for overcoming the difficulties of to-day.

In the majority of works where this state of scientific management has not been developed the problem is more a matter of finding and training workers to take the places of skilled men who have gone into armament work. At this moment, therefore, manufacturers will be well advised to anticipate the principle of "dilution" by looking over the routine and detail of their production processes.

Some operations by their very nature lend themselves to being broken down into a series of more simple operations. Where this is possible the need for highly skilled work may be reduced. By this fact alone the difficulty of the labour problem can be considerably eased.

This process of breaking down operations may indeed permit some manufacturers to reorganize that part of their work from skilled work to a simple mass-production basis. Useful as the effect of this would be on the labour question, however, it would necessarily involve a considerable replanning of management, as to control successfully a programme of mass-production is very different from running a works on individualized lines.

Other factors that have to be considered seriously under a scheme of "dilution" are the finding, training, and fitting in of new and less skilled employees, the training of your existing employees for promotion into key positions, the organization of shifts and overtime, and so on.

Watch for This Series of Articles

In fact, when the official agreement on the matter of dilution is settled, a whole chain of management problems will arise. BUSINESS will keep in touch with the situation and will publish a series of special articles, based on interviews with well-known firms, describing how the problem is being handled, particularly in regard to the training of employees for new work and the reorganization of plant in order to simplify operations.

During the latter part of the Great War period (1916-18) BUSINESS (then *System*) provided just such an advisory service for readers who at that time faced labour problems of acute difficulty. Those *System* articles on how leading firms were finding, training, and organizing employees to meet critical needs were tremendously appreciated.

The position to-day is certainly not so desperate as then, but the situation, though less acute, is of much the same nature. The articles we shall publish will therefore constitute an invaluable guide to solution of the problems that will arise.

MANAGEMENT TRENDS

By The Editors

City Planning For Staggered Holidays

ONE of the factors that tends very much to cause congestion at the holiday period is the practice of many big firms to send the majority of their employees off on holiday at one time.

Player's, the great tobacco concern, for example, release some 6,000 employees for one week in August. The management state that every year they have considered the "staggered" plan, but that it has always been found more convenient to have the holiday over and done with at once.

The Raleigh Cycle Company do their stocktaking in August (Bank Holiday week). It is their "quiet" period, so they take that opportunity to release their 5,000 workpeople for the annual holiday.

Ericssons, the well-known telephone and electrical firm, send their 3,000 employees away for one week in early July. They took a vote of their employees and the majority plumped for this month, though, as one of their executives remarked, "I don't know how they wangle their children off from school!"

In Nottingham a full 1,000 employees in the hosiery trade get the Bank Holiday week.

THE *Nottingham Evening News* makes a good suggestion: why do not the leading industrialists of the city and the local authorities formulate a staggered holiday plan for the city?

This seems like a good idea, but no employers, however big, can do much individually. City plans, on the other hand, could be completely effective. Given live co-operation between leading industrialists, Chamber of Commerce, and educational authorities, there would surely not be much difficulty in arranging that at least a majority of employees' holidays could be spread out over the period May-September.

Naturally, some firms would need to retain a single holiday term for all hands and to have this term in August. But the fact of a bulk of other firms making

(*Continued on opposite page*)

WEDNESDAY, APRIL 13, 19.

PERSONAL COLUMN.

PRIVATE PERSONAL ADVERTISEMENTS are charged at a minimum rate of 3/- each insertion for two lines (16 words), and 1/6 for each additional line. Replies to Personal Advertisements must be sent direct by post. Name and address of Advertiser (not for publication) must accompany all Advertisements.
Legal Notices, Public Notices, Business Announcements and Trade addresses under this heading 2/- per line, minimum space five lines.

THE EMPLOYEES of C. JENNENS, LTD., Vittoria Street, wish to Thank directors of the firm for their week's holiday with pay; also for their past generosity.

THE EMPLOYEES of Messrs. GASKELL and CHAMBERS, LTD., Dale End Works, wish to express Appreciation to their directors for generous grant of payment for holiday.

THE EMPLOYEES of HARCOURTS, LTD., Moseley Street, take this opportunity of Thanking the Management for their kindness in announcing that the Annual Holiday will be with Pay.

This publicly expressed appreciation is employees' gesture to Birmingham firms' paid holiday policy. These notices were inserted by the employees on their own initiative and at their own expense on the front page of one of the leading newspapers of the City

This Administration Plan Gives a *Daily* Profit and Loss A/c—*BY JOBS*

It Provides . . .

1 Control of all costs by comparison with 'standards'. 2 Prompt, accurate statistics daily with far less clerical labour. 3 Reconciliation of costs with the Financial Accounts of the Company. 4 Visible profit or loss daily on Production, Sales and Stock for every class of product.

By D. L. PAUL, A.I.A.C.
(Member of the Institute of Industrial Administration)
Guest, Keen & Nettlefolds Ltd.

ADMINISTRATION has one principle aim: To reduce to the shortest possible interval the time-lag between the planned physical activities of production and selling and the presentation to the management of accurate statistics representing these activities.

It can in fact be said that in proportion to the speed and accuracy with which management gets the key facts of all departments' work, so rank that company's chances of being successful in the face of modern competition.

To achieve this aim, however, administration must be wary. Modern scientific methods have greatly reduced the cost and labour of systematization, but administrators must guard strictly against the danger of arbitrarily adopting ready-made systems. It is a fatal error to subordinate work to a system. The opposite procedure must be followed. Only those methods must be adopted that will, in the quickest, most accurate and most economical way produce the prime essentials that management needs for effective control.

Any Size Firm Can Apply Scientific Management

No matter whether the business is a small or a large one scientific methods of control can be applied to it with every advantage, but in all cases this intelligent discrimination for specific needs *must* govern their application.

There is everything to be said in favour of the practice, now being followed by many firms, of appointing a full-time executive as systems specialist to look after this side of the business. This executive must be capable not only of following all the developments in modern methods as they take place, but he must be capable also of devising special methods, and even equipment, to meet his firm's particular needs.

The more developed equipment and methods become, the more strict should be the rule against applying them indiscriminately. The systems specialist would understand this. He would be the pivotal man who would unify the whole of his firm's "methods" to the end of continuously supplying the management with the most valuable up-to-date facts for the profitable control of the business.

Scientific methods do not necessarily involve the installation of costly equipment or highly skilled operatives, and as an example of what can be achieved—merely by using suitably designed stationery, I will outline the system of costing and stock control in operation in our Birmingham Wire Mill. This mill

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Management Trends (*Continued from previous page*)

alternative arrangements would completely remove any danger of such a need causing congestion.

The railways' new scheme for earlier and later cheap tickets would enormously help city holiday planning on these lines.

THE *first* suggestion of a city-planned scheme of staggered holidays seems to have come, however, from Coventry, though it was put aside when first mooted some months ago.

Firms in this area say that their activities are so closely inter-related that any scheme which split up the holidays so much would gravely interfere with production.

The *Birmingham Daily Mail*, for instance, says that engineering concerns in Coventry rely on manufacturers in Birmingham and the Black Country for many supplies; and different holiday periods for the two areas would mean a dislocation of present production facilities.

One firm in Coventry has, following a conference between the management and employees, agreed to grant a week's holiday at Easter, and to cut out the holiday at Whitsuntide. Other firms are preparing schemes on similar lines.

●

Penalizing The Wary

BUSINESS men are chagrined at what is considered the "utterly inadequate" income-tax allowances to be permitted on expenses for air-raid precautions.

The government decision is that none of the more costly types of A.R.P. expenditure (such as strengthening of building structures, the provision of properly devised shelters, etc.) is admissible as a business expense.

This condition will undoubtedly act as a deterrent to the fullest development of A.R.P. measures, since the cost will be such a burden on industry. These protective measures are not needed except in the case of war, when industry would naturally be engaged on production for national purposes. It is illogical, therefore, that the individual business man should be penalized for making preparation against the possibility of a national need.

THERE is also the need for reconsideration to be given to the effect of A.R.P. schemes upon valuations for

(*Continued on page 40*)

Wire Department.

BIRMINGHAM.

Return For ..... Weeks Ended .....

		CURRENT		CONTINUOUS	
STOCKS:					
Wire	Tons				
Rods	Tons				
OUTPUT:					
Finished Wire	Tons				
Process Wire	Tons				
Output Per Hour	Tons				
Capacity Worked	Tons				
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
Average Price of Usings					
Scrap Loss					
Total Material Cost					
Wire Drawing Cost					
Manufacturing Cost					
Special Treatment Cost					
Drawn Wire Production Cost					
SALES:					
Screw Depts..	Tons				
Outside	Tons				
		£ s. d.			d.
Average Cost Price of Sales					
Stocking and Despatching					
Selling and Administrative					
Total Cost of Sales					
Average Selling Price					
Profit Per Ton					
Total Profit	£				
% of Sales Value					

The management gets this departmental cost control summary every 4 weeks. It reveals any variations between standard and actual costs. This summary, however, is supplementary to the running profit and loss figures shown DAILY as each unit of production is completed. These daily control figures are shown in the diagrams below

manufacturers wire for special orders, also for screw- and nail-making in associated works of the company.

In designing this system certain guiding basic principles were laid down. It had to be speedy, accurate, and simple to work, yet informative to any depth of detail required, reasonably inexpensive and capable of being interlocked with the financial accounts of the company.

Transcriptions, Therefore Errors, Are Avoided

The system is based on the use of *unit information*; every record made during production being entered, not in a notebook or on a scrap of paper but on two kinds of unit entry cards, specially designed for the purpose: one a Paramount Punched Card, the other a Slip-Post Card.

These eliminate all the copying and posting, re-copying and re-posting which waste so much time and cause so many mistakes in the average costing system; because a unit card, having an identity of its own, can be conveyed from the source of the information right through the various departments until all the information shown thereon has been extracted for the guidance of the management and the compilation of works and accounting records.

A simple yet comprehensive code has been compiled to facilitate the handling and sorting of these cards, as a code is obviously more convenient than a description during the preparation of statistics.

It should be clearly understood, however, that under no circumstances are these codes used in the final presentation of the figures to the management. There is nothing more disconcerting to an executive than to be faced with a statement which is virtually in a "foreign language", and nothing is less convincing to the works management than a sheet of codes and figures which display no more life or feeling than a robot.

Fig. 1 shows the plan of the Paramount "unit" production card which is the source of information for progressing, wages, costs, stocks and statistics.

Along its edges are numbered holes which are converted into slots by means of simple railway ticket nippers. These slots indicate the written information under the various headings and enable the cards to be sorted, by means of a needle, at a speed of 40,000 or more per hour.

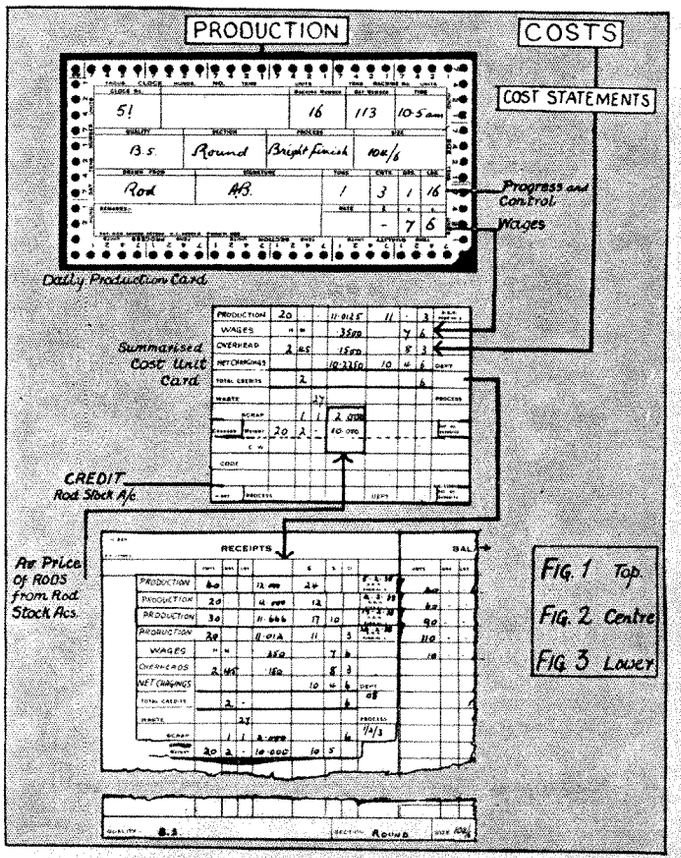
One of these Paramount cards is made out by the weighman for every weighing of finished wire, and a carbon copy is given to the operator as a receipt for his production. The cards are punched daily to record the operator's clock number and machine number, the size, quality, section and process—or finish—of wire drawn, and the day number, which is a simpler method of recording the date than by the usual calendar. During the week the cards are sorted to the above code numbers for planning and progress purposes, and on Monday mornings they are sorted to clock numbers, rated, extended and summarized on to a Wages Summary Card, from which the Payroll and Wages Analysis is compiled.

Production and Wages Costs are Easily Obtained

The cards are then re-sorted, and the weight of production and the wages are summarized on to Slip-Post Cost Unit Cards (Fig. 2) for each quality, section, size and finish of wire drawn.

I should add that there are about 12 qualities, 10 sections, 200 sizes and 20 different finishes of wire, so that there are often several hundred of these cost unit cards at a time. The various qualities of wire are separated for costing purposes, and a summary cost unit card is made out to show the total production and cost for each quality. In addition sub-total cards are included for

(*Continued on page* 40)



The Cost Unit Cards give day-to-day control of Output, Costs and Profits, the vital factor in this system of control. From the workman's card to the managing director's control statement only seven clerical entries are involved*

*How these actual figures are dealt with will be shown in next month's article as, owing to lack of space, continuation of Fig. 3 could not be reproduced here

Maintaining the 'Family' Type Business

In First Class Fighting Shape

To find a continuous supply of relatives young, vigorous and trained for executive leadership has always been the greatest problem of the 'family' business. "Clogs to clogs in three generations" is the Yorkshire phrase that grew out of the tendency for family business to revert to type solely on account of this difficulty. The article here explains how 'Clogs' can be turned into permanent profits

By L. URWICK, O.B.E., M.C., M.A.
Chairman Urwick, Orr and Partners Ltd.

THE last article in this series dealt with the large-scale business combination and its special management problems.* This month we turn to businesses of quite a different kind, but of almost equal importance in the national economy.

The "family" business passing down from father to son (or nephew, or cousin, or son-in-law) is very typical in English industry and commerce. It was the initial form of business organization before the industrial revolution. The original owner treated the undertaking as his personal property, provided the capital, took all the risks and supplied both direction and management.

At his death, or because he needed to broaden the financial basis of the concern, partners were introduced. There was substituted for the one-man show the firm or private partnership. But the underlying principles remained the same. Essentially the business was regarded as property.

Since liability was unlimited and any partner could imperil the whole private fortunes of his colleagues, integrity, personal knowledge of the other man, his essential identity of interests with the rest of the group and the convention by which property is usually left to relatives, were the primary considerations in making new appointments.

To-day the convenience of limited liability has caused most of these partnerships, except in the case of professional work, to incorporate as public or private companies. But while their financial form is altered in some cases the methods and outlook have changed little. Many small and medium-sized companies are managed as though they were still the private property of the directors—responsible to no one for their administrative acts. It is assumed as a matter of course that they should remain "in the family". Considerations of competence play second fiddle to the tables of affinity when it comes to appointing directors and managers.

This system has many virtues. England has produced many well-known families of business men who, generation after generation, have had a proportion of descendants who have been equal to the positions they have inherited. But the system also produces special problems and difficulties. The well known North country saying, "clogs to clogs in three generations", epitomizes the history of many "family" businesses which have failed to overcome these handicaps.

To be forewarned is to be forearmed. A brief analysis of the special character of the problems involved may suggest methods of avoiding them.

A Great Danger is Interrupted Succession

The "family" business often suffers from too wide a gap existing between father and son. To-day the age at which a man of the middle-class has his first male child is seldom under 30. Occasionally young men of exceptional ability may be fitted to control the whole destinies of a business in their twenties. But the average age, and it is averages that we have to deal with in practice, at which the individual is fully equipped by training and experience to be a principal executive is between 30 and 35, and nearer the 35 in most instances. On the other hand, many men pass their maximum executive utility before rather than after they are sixty.

In other words, every business which aims at maintaining the "family" principle, will, unless there are nephews or younger brothers, who "stagger" the succession, be running a risk from the standpoint of age. The risk is that there will be a period when the principal executive is either too old or too young. He will either be "hanging on" long past his effective capacity, waiting for the next member of the family to be ready, or he will be too young to carry the responsibilities of management. Often situations arise which are a combination of these tendencies. The son carries the responsibilities and is the active head of the business, but the father continues coming to the office just because he feels that the son is not ready, so, while ceasing to be the effective leader, he detracts from the son's authority and interferes with his initiative.

Promoting Employees Often Creates Difficult Situations

The result is a period when the executive control is less vigorous, less flexible, less effective than it should be.

Fifty years ago this was not of such great importance. But to-day the business which, in its methods or its personnel, is not in the front rank is apt to find that the only ranking of interest is its creditors!

Ideally every business should have a constant succession of future principals within its own staff, and periodical change is essential to good health. The tenure of office by a chief executive should be nearer ten than twenty years.

Attempts are often made to meet this difficulty by promoting a trusted

This is the third article in this series on Management - building which we invited Mr. Urwick to contribute. Previous articles have been—

How Balanced Control Insures Profits. *December*, 1937

How to Plan COMBINE Organization *February*, 1938

In June Mr. Urwick will deal with methods of securing the highest quality of management for the Small Business, or 'How to travel first-class on a third-class income!'

*How to Plan COMBINE Organization, BUSINESS for February, page 11.

employee to "fill the gap". But, if he is allowed to participate in the ownership the son's inheritance is reduced. If he does not, he remains an employee and finds it difficult to develop the characteristics essential in a principal. He is apt to be more concerned with a comfortable conclusion to his own career than with planning for the future of the company.

'Kicking' Is a Very Real Necessity

It has been said that a corporation has "neither a soul to be damned nor a body to be kicked". One of the chief difficulties with "family" businesses is the comparatively sheltered career offered to younger members of the family. Often the heirs to considerable sums of money, they are introduced into "the old firm" for alleged training. But that training lacks reality. Every salaried employee knows that family members are marked for quick promotion. Even if senior managers do not treat them as members of the ruling caste and call them "sir" they hesitate to deal with them on their merits.

This is bad for the business, but it is infinitely worse for the young entrant. The only real training is to be given definite responsibility for a definite job in the certain knowledge that failure to discharge that responsibility will incur censure, and that success will lead to greater responsibility. There is no reward so well worth having as promotion fairly earned in competition with the world.

Both these privileges are often denied members of the family. They are neither damned nor kicked for their faults; nor, when promotion comes, is it regarded by them or by their fellows as the legitimate reward of work well done. Their latent qualities are not developed by realistic contact with life and by awareness that success must depend on their own efforts.

This difficulty is enhanced by the effect on the rest of the staff if there are two or three members of the family marked for advancement to the highest positions. Ambitious young clerks and managers see their horizon limited to the best salaried appointments—in the smaller family business seldom very remunerative.

Advancement to these appointments often appears to be a matter of seniority and of cultivating the goodwill of the owners, rather than of positive achievement. The urge to perfect their administrative equipment—to master the complex technique of modern management is lacking. If they accept this position tamely the business loses much potential initiative and effort. If they do *not* accept it they become competitors with the family for the top jobs—seldom a comfortable position.

Best Preliminary Training Is Outside The Business

These difficulties cannot be avoided entirely. True, the "family" form of business has many positive values, and blood is thicker than water. But certain precautions can be taken against them and, in the interests of shareholders and employees, to ensure that clogs do not revert to clogs, but develop into enlarged profits.

One of the most practical steps is to secure that all younger members of the family are given a good period of training and experience, preferably in two or three different businesses in other trades or industries before they are introduced into the family concern. When they are so introduced it should be, not as learners or apprentices, but as candidates for definite positions involving executive responsibility, say at 28 or 30.

It is important however that the positions held with other businesses should be genuine. The young entrant should be required to get his job on his merits and not merely be "attached" for study because the principal is a friend of his father. Where the former course is followed both the candidate and the "family" business should benefit. The former gains the confidence to stand on his own feet. The latter secures an executive with a broad outlook and a knowledge of management in general rather than the habits of a single organization in particular.

Even where such precautions are taken there is still danger of a certain amount of inbreeding with regard to method. Younger members of the family work under a father or uncle and alongside managers who are often the contemporaries of their older relations. Both tact and affection dictate that they should not press proposals for change to the point when they will prove distressing to individuals. On the other hand business methods change inexorably. The technique of management advances by leaps and bounds with little regard for the feelings of individuals. The organization which will not stay in the race is heading for bankruptcy.

In such situations skilled and objective outside assistance can be of great help. It can take a view of younger members of the family from the standpoint of their value to the company as executives, unbiased by relationship. It can review their ideas about organization and method as a technical problem, divorced from old associations and personal issues. Where their ideas are sound, it can present them to senior executives, not as the theories of a young man trying to "teach his grandmother", but as the common practice of many progressive undertakings.

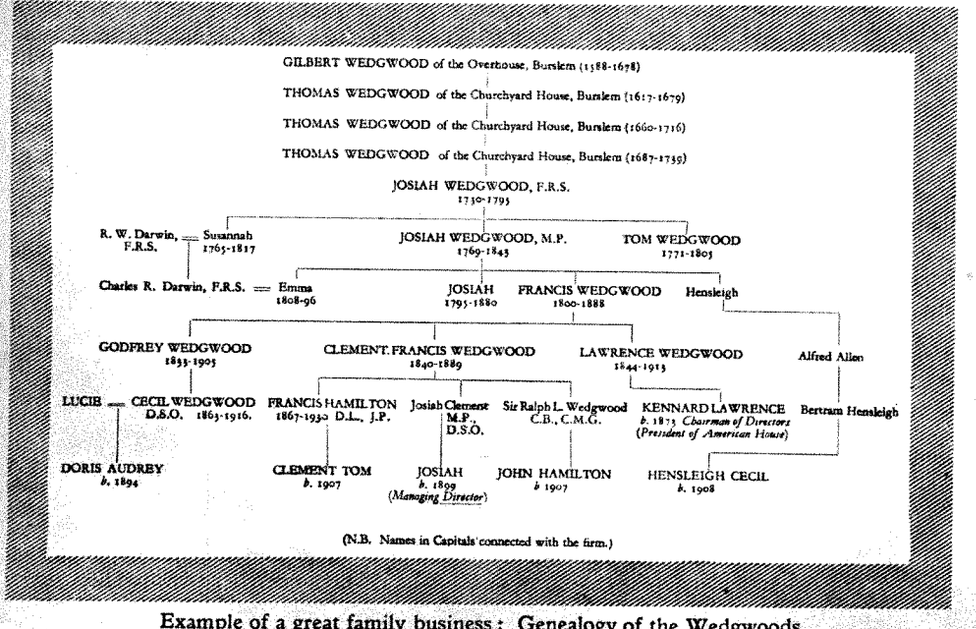
Proprietor's First Duty: Insure The Future

"Family" businesses should long remain a valuable feature of British industry. But only if those responsible for them take special steps to adapt their methods and their outlook to the changing scale and tempo of industrial practice can they avoid a high rate of mortality.

The position and responsibilities of a director of a limited liability company are *not* the same as the position and responsibilities of the private proprietor of a private concern. He is essentially a trustee and is not entitled to do what he likes. It is his primary duty to his shareholders, to the employees and to the community to ensure that the company survives successfully. And this he can do only by allowing no consideration of relationship or friendship to handicap him in securing the best available quality of personnel for the higher management.

Any other course is "jobbery"—a word with an ugly history.

He should constantly recollect Mr. H. G. Wells's pungent dictum that "it is a universal weakness of mankind that what they are given to administer, they presently imagine that they own".



Example of a great family business: Genealogy of the Wedgwoods

A Nation-Wide Marketing Plan, Yes: *When This 10-Months Area Try-out Finds the Facts*

In Test Area No. 1: A Special-Price Offer put over solely by local Press advertising. In Area No. 2: A Free Sampling Campaign by personal canvassers, plus local Press advertising. Both Schemes backed by salesmen to bring it the retail dealers. These campaigns are the plans of . . .

GRAPE-NUTS Co., Ltd.

UNIV CALCUTTA CENT. LIBR.

TWO regional campaigns now being carried out will give the "yea or nay" to the future national marketing policy and plans for Maxwell House coffee. This means the marketing problem is being approached scientifically and a limit set to experimental costs of selling, management and control.

When the tests are concluded, the Grape-Nuts Co., Ltd., distributors of the coffee, will know (a) which is the best method for marketing the product, (b) what are the selling costs per lb. of coffee, (c) what is the strength and type of sales organization needed and how much branded coffee they may expect to sell.

No Half-Measures In Planning Local Campaigns

Into the preparation of these area try-outs as much thought and planning was given as many distributors ordinarily put into full size national schemes. That is why these Maxwell House coffee plans make important marketing news.

A variety of problems faced the company and their advertising agents, Erwin Wasey & Co., Ltd., when they sat down to discuss plans. There was no precise knowledge of how much and to which classes coffee was sold, what competition existed, what chances a branded coffee had with the trade as well as with the public. The directors realized at the start that any scheme ordinarily launched would be based on guesswork, which was not good enough, so the advertising agents conducted a market research.

By questioning some thousands of housewives, retailers and wholesalers, and by examining all available statistics an exhaustive report was prepared. This provided a basis of facts upon which to build a marketing policy. It showed, for example, that some form of coffee is consumed in more than 60 per cent of British homes. It also revealed that the product is not used almost exclusively by the upper and middle classes, that over 90 per cent of the trade is done by four big firms.

These and other facts made clear the present extent, nature and future possibilities of the market. The next step was to attack the market. The report of course did not answer the question, "How?" But it did indicate the need for careful approach. That is the reason for the regional campaigns.

Two campaigns were planned: (1) a special half-price introductory scheme at Leeds; (2) at Grimsby, a sampling scheme.

The immediate question is: "Why choose these areas?" The broad reply is that they suited the two schemes but to some extent the choice was arbitrary.

Let us deal with the Leeds plan first. Here is an area fairly well "blanketed" by the *Yorkshire Evening Post*, a provincial paper of standing. This condition met precisely the requirements of the scheme. The newspaper could carry advertising to push the half-price offer.

A special supply of half-pound tins of the coffee, labelled "Special Demonstration Offer", was set aside for the campaign. These were sold at 7½d. each—the equivalent of giving free a ¼ lb. of the coffee.

Working with the newspaper, the advertising agents prepared a "circulation" map of the Leeds area, showing the volume of circulation in each district. The company then drafted a number of extra salesmen to the regular team in the South Yorkshire area. These men were set to work to open dealer accounts. Where the newspaper's circulation was heavy, the salesmen were instructed to make a special drive. Dealers were supplied with two showcards, one carrying the announcement of the free offer and the other showing the usual sales message. Dealers got the usual rate of profit from the "special offer" coffee.

Additional sales staff was used to complete distribution in a short period—about 14 days. This was needed to get synchronized effort of dealer displays and Press advertising. The newspaper campaign opened on February 4 with a 13 in. across 4 cols. space. The advertisement, of course, carried a "free offer" headline and an illustration of the pack. But included also was that important sales argument—the "vita-fresh" packing process.

The vacuum packing of the coffee in this special container is a main selling point in the scheme of sales promotion. The key opener, shown here in position for opening, is normally carried flat, secured by the metal tab seen on the lid

This point of freshness is included in all advertising and sales matter issued. As anyone who uses coffee knows, it is essential that the product remains fresh if the coffee made is to be good. The "vita-fresh" vacuum process of packing Maxwell House coffee is, therefore, a key sales point.

Sampling Had to be Kept Within Bounds

After the introductory special spaces, 11 in. across 3 cols. were used. Insertions dropped from twice to once a week. And the test in Leeds was on.

At this time work was going ahead on the Grimsby trial. Here a straight house to house sampling scheme was used, quarter-pound tins of coffee being distributed free.

Grimsby also was selected because it provided a clearly defined area covered by a local newspaper of standing—the *Grimsby Evening Telegraph*. Here, again, it was possible to tie up closely with Press advertising. Another point was the size of the town. The company did not want to spend great sums of money on the test. Distribution of samples in a larger centre would have been very costly to be effective. As it was, many thousands of houses had to be cut out of the scheme. This was done by first finding the local newspaper's circulation volume by districts and eliminating the weak ones. Then the poorest streets and areas were cut out.

Ultimately there were left 15,000 homes. The problem then arose as to how one in three could be eliminated. This turned out to be more simple than first appeared. The preliminary research revealed that about one home in three did not use coffee at any time. Men delivering the samples therefore asked one question: "Do you ever drink coffee at home?" The housewife who said "No" got no sample.

No attempt was made to interest such housewives in the use of coffee.

With each sample was left a folder setting out three ways to make good coffee and containing the usual story of the "vita-fresh" packing process and the reasons why Maxwell House coffee was always fresh.

A testimonial type of advertising was used to tie up with this sampling. Well-known persons were featured, each making some remark about the freshness of Maxwell House coffee.

As at Leeds the campaign started with twice a week 13 in. across 4 cols. spaces and later evened out to once a week, 11 in. across 3 cols. spaces. There was no need, of course, to use the special type of advertisement in Grimsby because no free offer was made through dealers. (Incidentally, this testimonial advertising followed the opening "specials" in the *Yorkshire Evening Post*.)

The salesmen who followed up this Grimsby campaign obtained good results. Over 60 per cent of the dealers in the area agreed to stock the coffee. This, up to the present time, makes a better showing than the Leeds campaign although it is expected that over 60 per cent of dealers there will become regular stockists.

It is still too early to determine which is the better marketing method. Both schemes will operate until November, a period of over 10 months. No hasty decisions here.

The advertising campaign will continue throughout the summer until November. Salesmen will make routine calls in both areas during this period which will be ample to show the volume of steady business captured. In this time every useful fact and figure will be gathered. Public and dealer response to the product, the number of displays obtained, investigations into those areas where sales have been very good or much below average, and so on, will all be recorded. The final figures will reveal, of course, the detailed costs of the schemes. Thus, both campaigns will be analysed from policy, financial and sales volume aspects and compared. The company will then be able to *plan* a national marketing scheme knowing all the big and most of the minor obstacles that operate against success. They will know, too, how to beat those difficulties.

IDEAS that have Built Sales . . .

Invisible Ray Improves Service

SERVICE has been speeded up and delay to customer avoided by the use of a modern device at the newest Ford service station, recently opened at Kingston-on-Thames (Surrey). As customers turn into the private road, leading to the works entrance, their cars interrupt an invisible ray, causing a bell to ring in the reception office. Thus, immediately they come to a standstill, a member of the staff is ready to attend to them—saving their time and giving them the feeling that they are welcome visitors.

●

Use Different Packaging In Replacement Orders

MANY a manufacturer of perishable food products has the replacement problem to consider. Of course he wants to replace any merchandise which has stayed too long on a dealer's shelf, in order to protect his brand, but there is always the danger of making it so easy to get a replacement that the dealer does not push the item.

An ingenious plan, as used by a well-known company, involves two different packs for the same product—one, the standard bottle issued on all regular orders; and the other, used when a replacement is made. The use of a different package in a replacement serves a dual purpose. It is indubitable proof, before the dealer's eyes, that he *has* had one replacement on an order. It serves to create a boundary line, too, for the salesman, because he is permitted to make only one free replacement.

Sales have increased under this arrangement, simply because the dealer who has a replacement pack of the product on his shelf sets out to sell it—and he does.

The special package serves as a constant reminder to the dealer that he has had one replacement and that from now on, if he does not move the goods, his will be the loss on further replacements.

Blotters are Good, but Make them also USEFUL

THERE is no question that blotters are still a useful and popular form of advertising. By far the best results, however, are obtained by blotters which have on their advertising side, not pictures of beauty spots, but useful information relating to the better use of the product advertised. Thus a photographic manufacturer issued blotters bearing exposure tables for its various grades of plates and films; a foodstuff firm issued cooking recipes; a textile house, patterns; a transport firm, haulage costs for loads and distances, etc.

All these tend to keep the name of the firm longer before the eye of the user because of the usefulness of the information. Mere pretty pictures, often very badly printed; and meaningless, moth-eaten slogans, have no advertising value whatever.

REALISM, used with imagination, is invariably "a winner" in selling. The Cheebrough Manufacturing Co., for instance, recently scored a big success at an exhibition by having a State registered nurse in daily attendance at their stand.

The display set out to tell of the uses of the company's product, Vaseline, in the care of babies in particular, and of the more general uses for chapped hands, tired and aching feet, and so on. The nurse was there to answer all questions and to give advice. Mothers brought their babies as well as their beauty problems to get this free service. As a person qualified to deal with such problems the nurse was looked upon as an authority, and not as a saleswoman for the firm. That, of course, added to her value as a sales force, immediate and lasting. She created goodwill as well as good sales.

Care was taken to make the stand an attractive background for the nurse's activities. Special attention was paid to lighting, to make sure there was no "glare" harmful to the eyes of infants. Another point about this very successful display was the colour tie-up with the company's products. Green and cream were used, the colours of the packs of the firm's familiar products

●

Commission Plan Raises Output 600 Per Cent

INTEREST of the staff in making helpful suggestions and putting up money-saving ideas is stimulated by a furniture manufacturer in the London area by awarding a small commission on economies effected. All savings brought about by staff suggestions are turned into terms of *cash* savings, and the firm pays up to 1 per cent of the amount saved. This payment is carried on over periods up to a year, the time-limit and the commission rate depending on the type of saving made.

This sort of scheme induces employees to put on their thinking caps. Take an instance in the machining department of this firm. A spindling machine is used for making a cut in a length of wood—called a frame or rail. The machine does only one operation at a time, so if wood is cut into frames first only one frame can be processed at a time. When the commission scheme was introduced, one of the operatives thought of the idea of putting the whole wood on the spindling machine first and then cutting the frames.

Simple, this short cut, but up went output of frames by over 600 per cent. Turn the saving into cash and the workman benefits considerably.

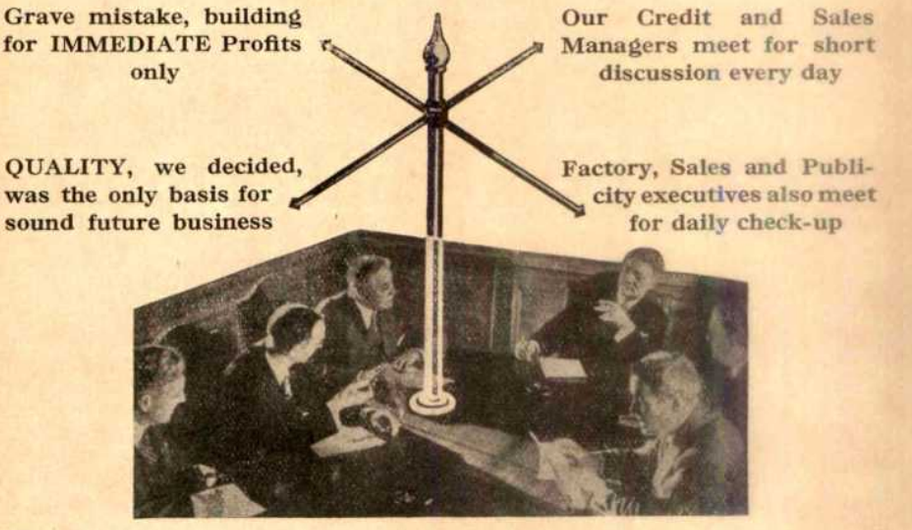
Our Business Took On a New Lease of Life When We *Sold QUALITY Instead of PRICE*

By THE HEAD of a Successful Manufacturing Firm

A PROMINENT industrialist once remarked to me: "It is deplorable, so many seemingly progressive businesses rise, attain success, then decline and fail".

What he had in mind was the business "meteor". What he meant to emphasize was the simple but easily overlooked fact that foundations for great structures cannot safely be laid in sand.

Lasting structures demand a different kind of planning. It is one of the grave mistakes of business to build for immediate profits, if thereby you endanger the prosperity of the long future. Ultimate success is of far more importance than a little quick money.



Customers Who Increase Orders are the Best Type

Let me illustrate. The customer who buys £200 to-day and can purchase £500 in the future is always preferred to the customer who may buy the £500 to-day, but will sell the same volume or less a few years hence.

We wish to be assured of a business 10 and 20 years from to-day rather than to seek the last penny now.

I had been on the road as a travelling salesman, and the policies and principles acquired while on the road were carried with me into our business. Our company soon found success. Our business was profitable; and our volume grew with each succeeding year. Apparently, we were making progress.

In the course of time, however, we found that the business was not as substantial as we had thought. We were not selling *goods*, but selling *price*. Our customers were not loyal. They did not care much for quality. They did not demand our goods. They only demanded *price*, and we were forced through competition to reduce our price, we had to skimp quality to retain our customers. If the quality was poor we were always blamed. When we did succeed in obtaining a price that permitted making a real good product, we received no credit for it.

"How", I asked myself, "can we keep our customers and build a permanent business?"

I knew we could do so for a short time by selling "price". But I was far more concerned about the future. On the road I met salesmen who represented houses with well-known brands. They were graciously received by the trade because they were known to stand for something—quality, style, comfort, or whatever it might be. Suffice it to say that this brought home to me, all the more forcibly, that our policy was wrong.

We started our business to make a good product. What chance is there of doing so when outsiders dictate price—what future is there for our company?

That was my line of thought.

Our problem was to create a demand for our product because it was ours. So we made a "right-about-face" in our policy. We branded our goods and while it is true that we lost fully one-half of our business during the subsequent year, we have never since let a product go out of our factory without our name and brand.

Our thought was that if we made a bad product, we meant to stand by it and take the blame and repair the loss. If we made a good product, we wanted the proper credit for it.

We Had to Propagate a New Idea

Briefly, then, this was the initial and vital step in building our business for its future prosperity. There were many other problems that were gradually developed. Our chief problem was to create the lasting demand for our goods. We had to impress the public with the knowledge that we manufactured a really good article.

So the manufacturing policy which we developed, consistent with the fundamental idea of permanence, was to make the best article possible for the money, continually seeking to improve our quality and incidentally, always being satisfied with a small margin of profit per unit.

That policy, we were confident, would in the long run give our customers faith in our product. This faith was essential. And since this central thought, the embodiment of our business policy, untiringly employing every means to improve our product, was in the customer's interest, we sought to let him know by giving our idea publicity. This led to advertising.

Advertising to Build Prestige, Not To Sell

At first, we had very little money to devote to advertising. We took a small amount of space and placed advertisements in publications which we felt would reach the largest variety and greatest number of people.

Our advertising was not for the purpose of getting a great volume of orders. Rather, we meant to use it to tell a story—to create an impression. We tried to say to the public over and over again:

"Our Product is a *good* Product!"

That was our thought—to associate the name of the maker with quality. Good goods with consistent advertising gradually created a constantly growing demand and paved the way for future business. Again we were trying to look ahead. We felt that our advertising was incidental. Whether it appeared in magazines or newspapers or what

not, it was only one means to the end, however important in itself. Our policy, no matter what business conditions existed, was to repeat the message in all possible ways.

So the foundation on which this business is built, when carefully analysed, is very simple: to give the best product possible for the money and then tell the public we are doing so through our advertisements.

As a salesman, I came to realize keenly the value of sales goodwill. For our future safety, I knew we could not afford to have many critics. And policies in every department were built up with the purpose of avoiding them. Every business will make some enemies, perhaps, but we always insisted that our business be conducted in such a way in every contact as to minimize the number and ill-effect of enemies.

Whether it be a question of sales, returned goods, or collections, a customer's friendship is far more vital and necessary than simply getting his money to-day. This policy is repaid many-fold in future money.

Many difficulties, affecting the future of the business, can arise within as well as without. The loyalty of employees, co-ordination between departments, assuring goodwill and efficient service, is necessary for the prosperous future.

This Plan Secures Departmental Exchange of Ideas

Throughout our organization, we endeavour to have a mutual interchange of ideas between the various departments. It is just as necessary for the accounts managers to be thoroughly conversant with the general sales policies and sales improvements, as it is for the sales manager to be familiar with the credit situation. It is with this thought in mind that we have daily joint meetings of our accounting and sales departments, spending from ten minutes to an hour in discussing various problems and difficulties that are encountered from day to day.

Not only does this broaden the viewpoint of the various individuals connected with our company, but it also gives them an insight into the activities of departments which might ordinarily be considered outside of their sphere.

There is an extremely close natural relationship between credit and sales, one is entirely dependent upon the other. A knowledge of all the different elements that enter into an account must be given careful attention before a decision can be intelligently arrived at. The daily meetings encourage interchange of vital information.

Consistent with this, our factory foremen and superintendents meet with our sales and publicity departments each morning. These meetings are not held for the mere purpose of criticism, but with the thought of giving mutual constructive suggestions.

Nothing is more essential than this co-ordination of departments. Yet in some organizations it is utterly overlooked; one department is pulling one way and another is pulling in another direction. The continued improvements that we demand—the improvements in our products, in sales policy, methods, promotional activities, and so on, can be readily accomplished only when there is the closest co-operation between the employees. Every one must pull together—there must be team-work rather than individual striking out along lines suggested by private initiative without due consideration of the business in its entirety. Yet in every way possible we try to keep the avenues of promotion open so that proper initiative and ability need not be balked anywhere by unnecessary obstacles.

"Some speak of the science of management; I prefer to think of it as an art. Science is too exact; art leaves room for the creative genius of the individual . . . the function of controlling and directing human beings needs more variables than the scientist is allowed."

R. Lloyd Roberts,

Chief Labour Officer, Imperial Chemical Industries.

"Plan for the future now"—that, in short, is the thought carried into the sales policy and every other project contemplated. Nothing is so vital. Foresight alone can carry the business through the privations of hard times, as well as through the prosperity—and occasional temptations—of good times.

Policies or principles in a business must not be inflexible. They must be varied, depending on the nature of the enterprise and the times. But our experience has taught me to have the utmost respect for the man who boldly stands by his principles and policy, notwithstanding hardships or the temptations full of prosperity. He is the one who ultimately succeeds, always provided that the policies he stands by are sound and based on the background of experience.

You can carry the idea I have described into nearly every business activity. Here is a case. At present we have plans for a new factory, increasing our output from 25 per cent to 30 per cent. It will not only necessitate many changes in our present organization to maintain a correct balance, but we will also have to have additional employees. One method of getting that staff would be to wait until the building is completed, then obtain as many people as might be suitable for our purpose. We are going about it differently.

Our plans for this new building are only being completed, but already we have obtained a short-term lease on a building in which we have established a small factory. Presently, a number of people will be employed in this temporary factory so that they will be able to learn to manufacture our goods. When our new factory is finished we shall then have a trained nucleus upon which we can rely to build the remaining necessary organization for our new factory.

You can find opportunities to plan ahead like that, regardless of where you turn. No business makes its future by a few gloriously successful strokes. It builds through the thousand daily acts, for better or worse, of the management and of every one in the organization.

●

Transparent Pails Make Novel Confectionery Displays

IN a well-known Canadian store much success has been obtained by exhibiting sweets of all kinds in buckets made of transparent material—cellulose acetate.

This novel use of plastics carries the science of visible merchandising to its limit, for in addition to visibility in bulk, each of the sweets is wrapped in transparent "Cellophane", both as a protection against conglutination and for "appetite-appeal" display.

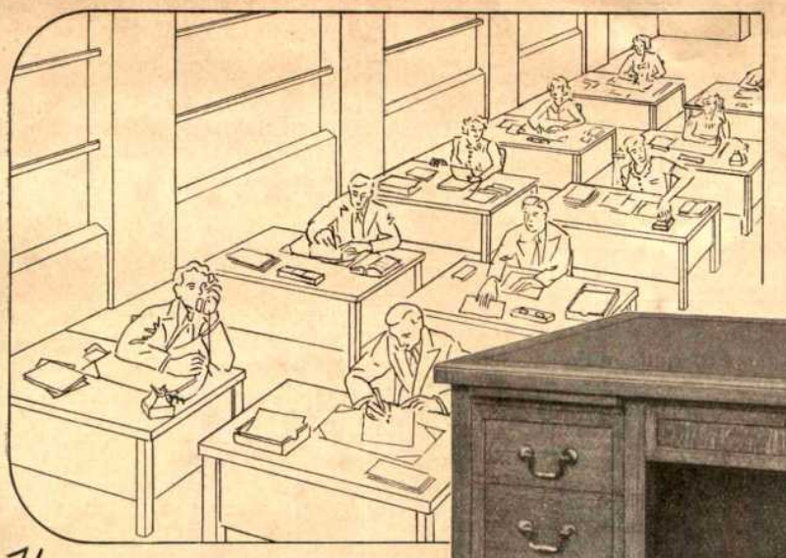
The merchandise manager states that these pails are very easy to arrange into large size and imposing displays, and that attractive effects can be obtained by flood-lights placed behind the displays.

Plan Your Business Convention In Holiday Conditions

MANY firms follow the practice of arranging business conventions during the summer months. It is well known that a convention is invariably more successful when the social amenities as well as the purely business needs are studied. But as appropriate arrangement for the former is generally even more difficult than the latter for the organizers to plan it might be useful to review the facilities provided by the Norbreck Hydro at Blackpool.

The Norbreck, well known as "the largest recreative hydro in Europe", is specially equipped for business conventions. With 350 of its 680 bedrooms facing the sea it can fully accommodate any convention up to 1,000 strong. Conference-hall for anything up to 1,600 can be provided, with separate desks for each delegate and with speech relay equipment if needed. There are twelve committee-rooms near at hand, and the many detailed facilities for the smooth running of business arrangements.

Side by side with these facilities are all the amenities which have made this hydro famous: golf, tennis (23 courts), warm sea-water swimming-pool, sun-ray, tonic and remedial baths, cinema, gym, ballroom, cabarets and so on. Thus delegates to a business conference or convention can, at the Norbreck, enjoy everything for their convenience, well-being and recreation without necessarily going beyond the premises of the famous hydro.



. . . How much will your desk *Earn* to-day ?

The RICHMOND *Desk*

— indispensable to the MODERN, PROFIT-EARNING OFFICE !

The Richmond Desk (*illustrated above*) is meeting a popular demand for a moderately-priced Executive Desk. It combines dignity of appearance with economy—Leather-lined and moulded top. Panelled drawer fronts. Width 5′ 0″. Depth 2′ 10″. Height 2′ 6½″. In Oak £22 15 0. In Mahogany £27 0 0.

There is a Shannon Desk designed to suit the individual duties of every employee in every office.

The four desks (*illustrated on right*) are well-tried satisfactory models all at low prices, chosen from a wide range of Utility Equipment, designed and built by Office Planning experts for over fifty years.

No. 4940

Contract

No. 1850

No. 1954

DESKS AT STANDARDIZED COSTS £6 to £60

THE BERWICK No. 4940
General office grade. Large desk of table type fitted with efficient stationery cabinet. Laminated top. Extension slide, box drawer, 12 in. flap. 3 ft. 5½ in. x 1 ft. 10 in. deep x 2 ft. 3 in. high (when flap extended 12 in. extra width).

THE CONTRACT
General office grade. Four box drawers. 1 deep drawer, and a centre drawer—automatic locking controlled by centre drawer. Two reference slides. Width 4 ft. 6 in. Depth 2 ft. 6 in. Height 2 ft. 6½ in.

THE BEDFORD No. 1850
General office grade. Four box drawers, 1 deep drawer and centre drawer. Automatic locking controlled by centre drawer. Two reference slides, one with opal Memo Slate. Width 4 ft. 2 in. Depth 2 ft. 7 in. Height 2 ft. 6½ in.

THE BRADFORD No. 1954
General office grade. Drop well desk with double pedestal. Automatic locking controlled by top drawer. Opal Memo Slate on right hand extension slide. Width 4 ft. 6 in. Depth 2 ft. 7 in. Height 2 ft. 6½ in.

THE Shannon LIMITED

MADE-TO-MEASURE DESKS
at standardized costs

HOW TO PREVENT WASTE TIME IN YOUR OFFICE

Write for our 28-page booklet "Lost Motion", the Office Planning and Equipment specialists' case for a profit-earning office. Sent Free to executives on receipt of business card or letter-heading.

WRITE TO-DAY FOR THIS **FREE** BOOK !

THE SHANNON LTD., IMPERIAL HOUSE, 15, 17 & 19 KINGSWAY, LONDON, W.C.2

BIRMINGHAM - BRISTOL - MANCHESTER - LIVERPOOL - GLASGOW - NEWCASTLE-ON-TYNE

Handling *Small Loads* At *Low Costs*

'BUSINESS' Special Road Test No. 5 . . . . . *Fordson 5 cwt. Delivery Van*

By
RICHARD TWELVETREES
A.M.I.Mech.E.

Road Transport Editor
of BUSINESS

FIRMS which have to handle goods consisting of small as well as big parcels often find that whereas the latter can be delivered at reasonable costs, it is the transport of smaller packages that runs away with the profits.

That is because vehicles of relatively large carrying capacity are run uneconomically for the purpose, and the obvious remedy in such cases is to organize the traffic so that the smaller packages can be handled separately by light vans.

There are several important matters connected with light van operation that call for careful attention, especially as experience shows that vans of this class have to work far harder than heavy vehicles engaged on general haulage.

A few weeks ago the Ford Motor Co., Ltd., offered to place one of the latest Fordson 5-cwt. vans at my disposal for a special test to be carried out with the co-operation of a suburban butcher.

"If ever you want to test a small van," this butcher had once said, "bring it along to my shop and we will give it a run over a country delivery round. That will tell you all you want to know about the work required of the type." So I turned up with the Fordson 5-cwt. to take him at his word.

For demonstration purposes the van was fitted with an extra seat in the cab and a test tank for checking the fuel consumption. Otherwise it was a perfectly standard job.

The vehicle carried a full 5-cwt. test load, but the weight of the extra seat, spare petrol and myself increased the total weight aboard to well over 7½ cwt., leaving the van to work under an appreciable handicap.

Two Sets of Conditions that Must be Met

Before you decide on the purchase of any trade vehicle information will be needed on two quite different sets of conditions.

First, one must be convinced that the general character of a vehicle is such that the driver can handle it well and economically.

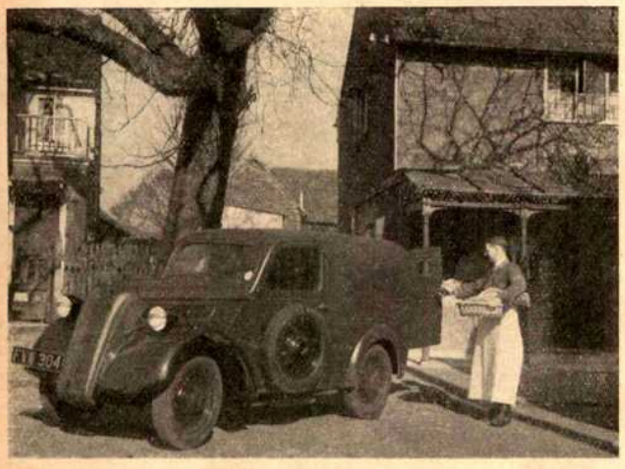
Economic short distance transport of light loads necessitates such special features as generous load space, ease of quick entry and egress combined with structural strength to withstand frequent loading and unloading and the great number of stops and restarts involved in local delivery work.

These are qualities that are determined quickly by an experienced roundsman, and I was fortunate in having one of the butcher's assistants to pilot me over the route.

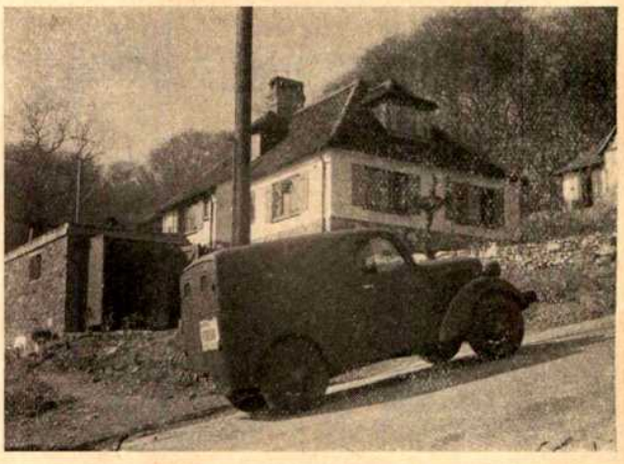
Second, the prospective purchaser must know something about general performance and fuel consumption, which information can be obtained from readily acceptable test procedure.

Really Gruelling Tests on This Country Round

After twenty minutes' run through the suburbs of South London, my companion pointed to the hills in the distance where several of his customers reside in houses far from the beaten track, reached only by rough and stony lanes.



Loading up for our test run on one of the regular country delivery rounds of a busy retail butcher



Some delivery points were on gradients of 1 in 3. We carried an overload, so stopping and starting tests were severe

"We have a rough time of it in the winter," he remarked; "the snow hangs about for a long time and the roads become almost impassable." There, at all events, I thought, would be a good chance to see what the Fordson could do; but in the meantime we encountered quite an unexpected trial of performance and durability.

Leaving the main road, we turned in at the entrance of an enormous sand-pit

(*Continued on page* 38)

Vehicle Owners

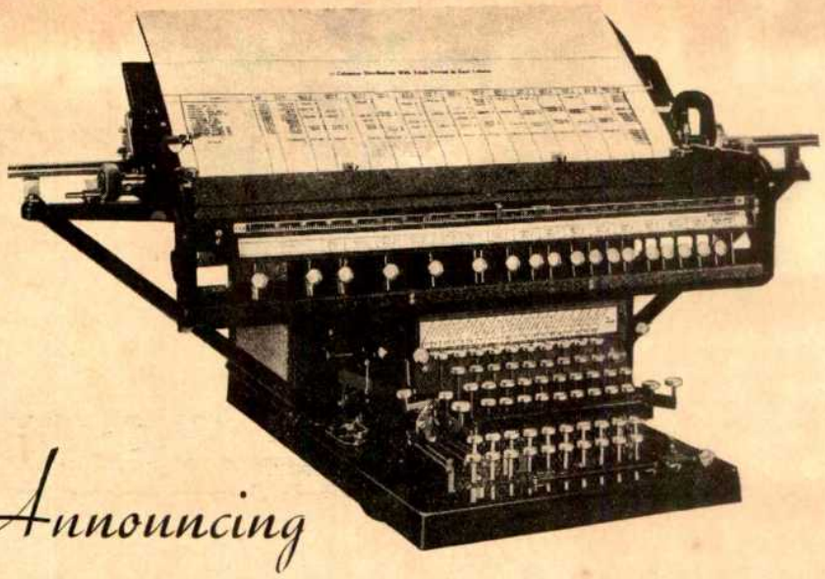
"Your Questions Answered"

by a Legal Expert

ONE hundred and twenty-one questions involving as many tricky points of the complicated legal net which to-day surrounds all commercial transport users are answered in a new handbook, "Your Questions Answered", published by Vauxhall Motors, Ltd., Luton.

The compiler of this handbook is the legal expert of Vauxhall's *Bedford Transport Magazine*. All the questions answered are actual problems to which vehicle operators from many parts of the country have asked solutions. For example: How are trailers taxed? Is a container reckoned in with the unladen weight of a vehicle? How long ahead do I have to apply for a carrier's licence? Can any case be carried to a higher authority than the Appeal Tribunal? May goods be carried in a private car? What is the actual law about careless or dangerous driving?

In his answers to all the 121 questions the compiler has kept to plain, simple explanations. No legal jargon is used. Whether you employ Bedfords or any other make of vehicle, you will find this handbook extremely useful. Its price is sixpence, from Vauxhall Motors, Ltd.



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After the amount has been entered on the keyboard, the machine tabulates to—and prints in—any column desired, simply by depressing the appropriate key.

Register selection is automatic. Amounts may also be accumulated in registers selected by the operator. Each item is automatically designated with the register number as it is recorded. The machine will list vertically and *add or subtract in any register*. Automatic line proof of accuracy is furnished. Alignment of figures is automatic—pounds under pounds, shillings under shillings and pence under pence. The entire register total or account balance is automatically computed—and printed by the depression of only one key—not copied from dials one figure at a time.

As many columns and as many accumulating registers are available for columnar distribution as can usually be accommodated on a convenient sized sheet.

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Planning the OFFICE FORMS so as to *Speed Up Works Management*

When you design time- and error-saving forms as described here, there are three important factors that will help you to carry the improvements and the cost-saving still further:

○

1. Whether the forms are intended for filling in by hand or by typing, look into the question of having them made up in *sets, carbon backed*, so that any 'masking' is automatically provided by the shape of the carbon layer. This saves in the time required to manipulate them as there are no loose carbons to adjust.

○

2. If the nature of the forms needs more continuous work, consider having the sets in '*continuous stationery*' form. Here again is speed.

3. For forms pure and simple, there is no style, from the ordinary to the most complicated, that cannot be produced quicker and more cheaply in your own office by an *office duplicating machine*.

○

Some business men raise the objection that 'sets' and 'continuous stationery' cost more than single forms. But the cost of a form is NOT merely its invoiced price. The real cost of a form is its initial price plus the cost of time in filling it in, distributing it, acting on it, filing it and referring back to it.

○

Naturally, the greater the extent by which these *plus* items can be reduced, the more efficient and the cheaper a form becomes as a unit of working equipment.

By F. LLOYD PARTON

THE works manager's force can be divided into two groups: (1) people who *make* things; (2) people who *do* things. The second group includes such help as storekeepers, progress men, inspectors, works clerks, dispatchers, etc.

Too often these people are stigmatized as non-producers, but it must be admitted that what these people *do* affects to a considerable degree the balance on the Manufacturing Account.

What steps, then, can be taken to improve the "output" of this section? How can it be more effectively directed? What can be done to ensure getting its maximum production?

Proper Forms are as Important as Proper Jigs, Tools, etc.

Modern, efficient tools and appliances are allowed the *direct* worker, yet the needs of these indirect workers are often not seriously considered. Much of the work done by this class of help consists of getting and recording information, issuing orders, writing requisitions, urge notes, etc.

Now, in the shops, if an operation has to be performed over and over again it is some expert's job to devise a jig or special tool to reduce time and produce a better job. A little consideration will show that what the jig and fixture is to the man who *makes* things, so properly designed factory forms are to the men who *do* things. Intelligently planned forms will enormously increase the output and provide an effective means of direction and control.

There are many advantages in providing forms fully printed with as much permanent matter as possible. Printed matter saves writing or typing time and reduces risk of errors; it ensures the same sort of information being always in the same place, thus making for quick, accurate reference; it saves time in filing away or finding.

As with the jig or fixture in the shop, the printed form must be designed by someone who knows precisely what is wanted and the type of help who will have to use it.

Some time ago I had to re-order the form shown in Fig. 1. It was at once obvious that it needed redesigning. In the first place, the size was awkward, 8½ by 4¾ inches; so it was altered to the standard 8 by 5. Then the work of the typist who had to fill in the form was considered. With the old lay-out the typewriter platen had to be moved specially by hand a *portion* of a revolution no less than eight times, while six or seven horizontal adjustments of the carriage were needed to get the matter in the provided spaces.

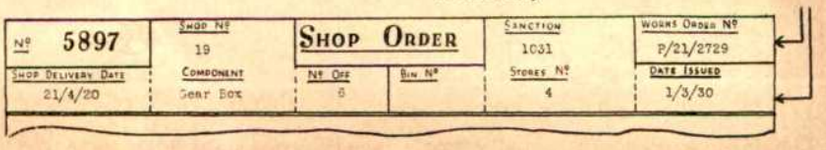
Know the USE of a Form Before Designing It

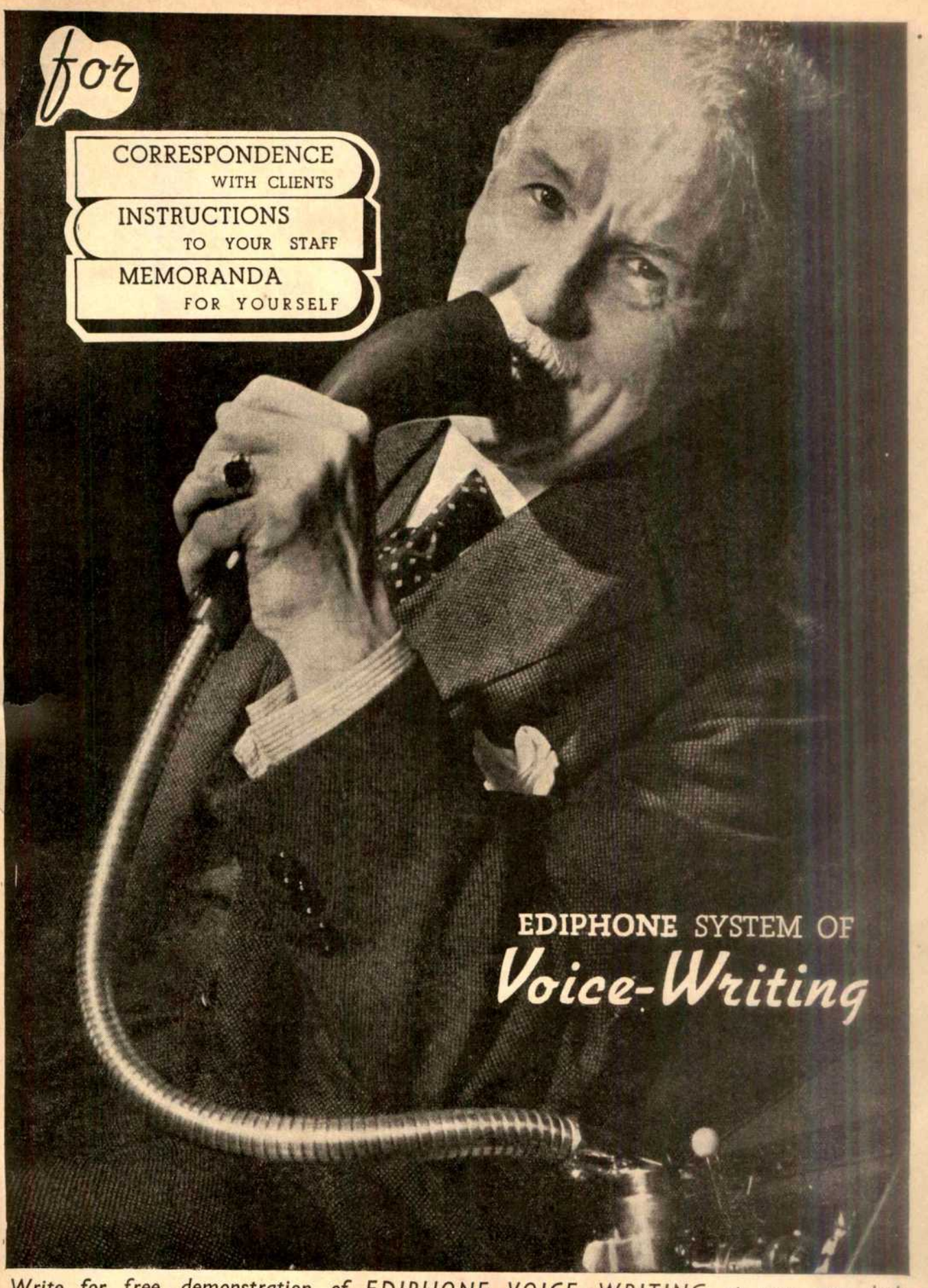
The redesigned form is shown in Fig. 2. Note that the top three entries are all in one line, while the second group of spaces is in a lower line exactly three typewriter spaces below the first. The margin stop gives the right starting portion for "Delivery date", No. 1 tabular stop for "Shop No.", No. 2 for "Sanction and Stores No.", and so on. Obviously, the time saved in filling a hundred forms a day is considerable, and the new forms cost no more than the old.

The matter of size was mentioned above. The standards recognized

Fig. 1. An awkward, ill-designed form. It measured 8½ by 4¾ inches, an odd size. The typewritten entries indicated by the arrows necessitated the platen of the typewriter being moved a PORTION of a revolution no less than 8 times, while 6 or 7 horizontal adjustments were needed to get the spaces

Fig. 2. Redesigned, the form is now standard size and far speedier to use. The top three typewritten entries are all on one level, while the lower group is also in line, exactly three spaces below the top line. Tabular stops give the exact spaces horizontally





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throughout the printing trade and by the manufacturers of filing appliances should always be used: 5 by 3; 6 by 4; 8 by 5; quarto; foolscap. These are sufficient for most needs.

The lay-out of a form should be designed to save the time of every person who has to use it: the typist who fills it in, the staff who have to note its information, the messenger who conveys it, and the clerks who have to file it and find it in the future.

times a day throughout the year add enormously to the efficiency of the indirect worker.

Fig. 3 is an interesting example of what a printed works form can do. Many works managers producing plant to individual specifications are troubled with alterations by the customer after the issue of the order to the shops. Such alterations are often numerous and important, and it is imperative that the inspector finally releasing the finished

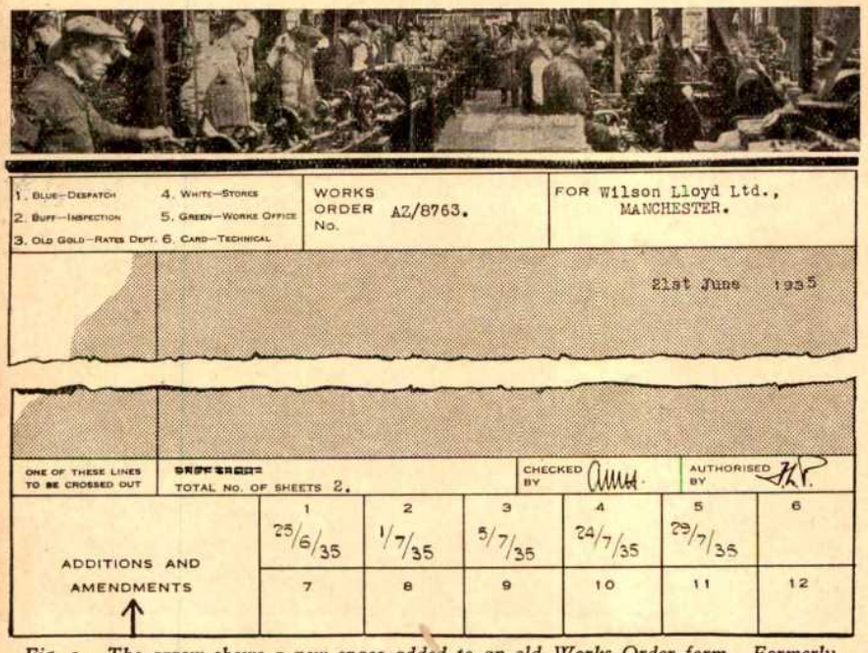


Fig. 3. The arrow shows a new space added to an old Works Order form. Formerly, amendments, as they came in from a customer, were sent forward to the works departments in memo form. The inspector of the finished job never knew if he had been advised of all the amendments. Now they are incorporated in the Order; they cannot be missed. This order shows 5 amendments added

In many offices hours a week are wasted through want of thought as to where to place a contract number, name or order number. A case arose recently where some contract papers were fastened at the head in a folder. This obscured dates and estimate numbers; officials of some importance repeatedly lost time in partially undoing the fastening, yet this condition had gone on for years. A slight alteration in the layout abolished this waste.

Concise Lay-Out Saves Errors in Copying

In some cases one form may have to be filled in by several officials in different departments; if possible, the design should be such that each individual portion is together and not spread all over the sheet. Then in forms which have to be entered up by copying from other records, the lay-out should ensure that the writing-up can be done in the same order as on the original.

In the case of visible index cards or sheets, careful thought as to exactly what "key" information should go on the visible strip may save much time in finding urgently needed data. All these are small points, but seconds saved in operations which are repeated many

product should have in front of him complete instructions with all changes to the order.

A Proper Form Tightened-up this Checking Job

In this particular case, when a change to specification came in from a customer, it had been customary to send out an ordinary inter-departmental note to all heads of sections whom it was thought would need to be informed. But this was not satisfactory. The inspector, without making personal investigation, had no check at any time that his file was complete. Eventually a six-set was designed, identical with the order-set except that it had an additional space marked "Additions and Amendments".

This form had typed on it the original order number and date. The amendment when made out and signed was taken out by the junior clerk in the technical office; one copy to each official who received one of the original order and the date of such change instruction entered by the clerk in the appropriate space at the bottom of the original order.

In the case of the order illustrated, it is clearly set out that there have been five amendments issued, and if the five are not found at the back of the order, inquiries have to be made for the missing document.

Incidentally, this method also solved another problem, the calculation of the cost of individual alterations. All time and materials being booked to the order number with the addition of the amendment number, after a stroke, thus: AZ/8763/3.

Printing In These Particulars Saved Time

A device to reduce labour is shown in Fig. 4. The printing in of all operations means that the operator or works clerk has only to tick the appropriate heading. In this form the reference under which the ticket will be finally filed away is at the top right corner. Here, too, colour is made to facilitate sorting. Incidentally, where colours are used in a number of forms, it should be ensured that one shade always indicates the same information, or identifies the same department. This point is illustrated on the top left of Fig. 3.

It is important to remember that printed forms of themselves can accomplish nothing, they are "tools", and unless the works management insists on their being properly designed and used, their value is largely nullified. The type of management which is almost exclusively interested in "design" and in "making" things, too frequently, after agreeing that certain works forms shall be issued, provides no check to see that they are intelligently used, and so fails to take advantage of this important means of effective control over the workers who "do" things.

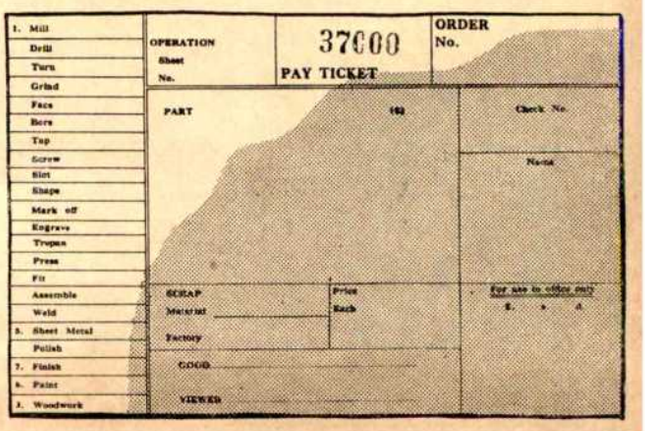
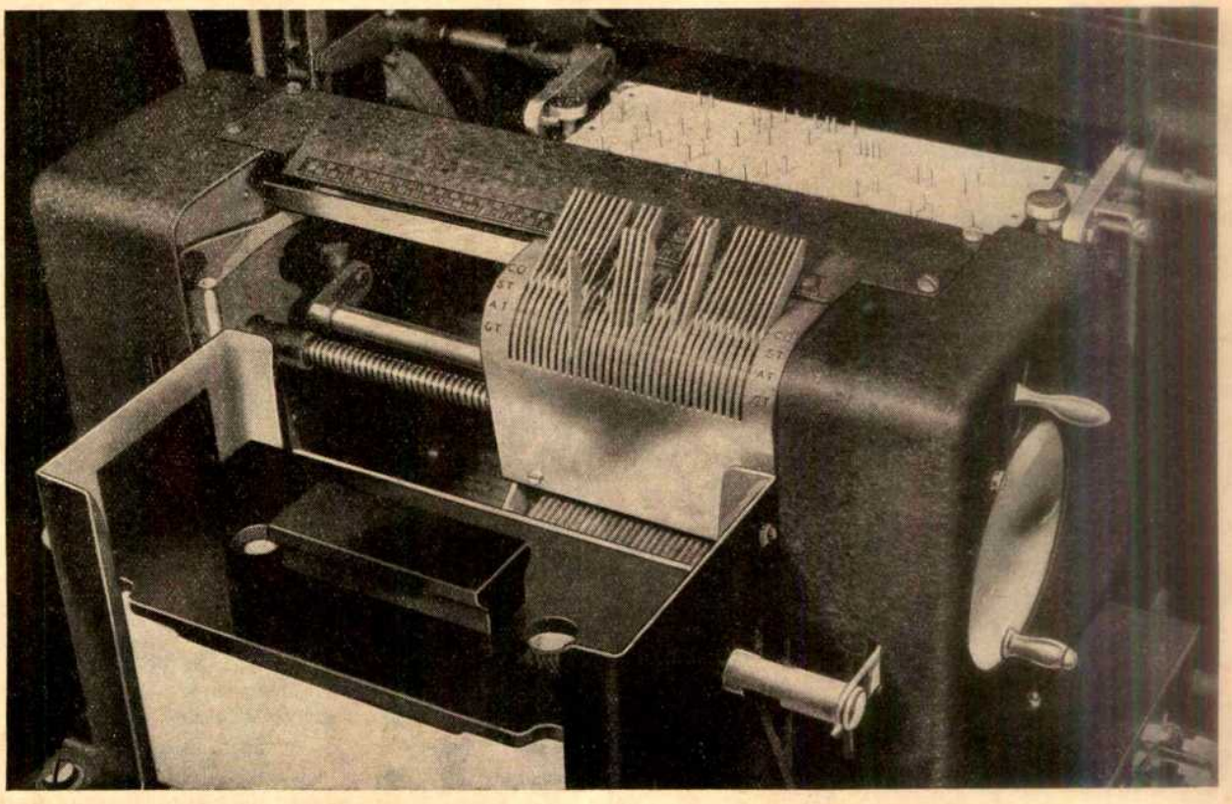


Fig. 4. By printing in all operations as shown here in the left-hand column the only work the production clerk is called on to do is to put a tick against the appropriate headings. With the old forms he had to write in, by hand, each operation. By this means it took at least six times as long to complete a form as it does now

The Guarantee of Accuracy



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BUSINESS EQUIPMENT REVIEW

Staff '*Personal*' Storage Problems Are Solved By Using Modern Steel Lockers

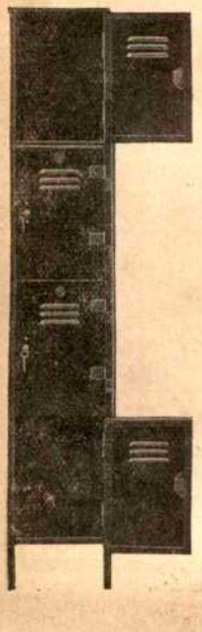
A PROBLEM common to all businesses and one which is often a nuisance is that of providing storage space for the personal use of the staff or for tools, special equipment, stationery, and so on. The old, haphazard method, for example, of allowing office or factory staff to hang their overcoats, hats, umbrellas, etc., on convenient nails on doors or walls or to leave them in some central place on open hooks usually leads to unnecessary waste of time and trouble. Unpleasant though the fact may be, there is always at some time a pickpocket at work. The method is untidy, too, and leads to general confusion in rush hours.

An accepted solution to this problem is to provide some kind of locker for each member of the staff. In some cases a locker is shared by two or three people.

Steel clothes and cupboard lockers are, of course, among the most up-to-date types of this equipment. Milners' Safe Co., Ltd., whose range of steel lockers I inspected last month, are well-known makers of this class of equipment as well as of safes, strong rooms, locks, and so on. They have studied the problem of providing the right type of office and factory lockers and cupboards for the uses mentioned.

All This Equipment Is Fire-Resisting

The company's equipment I examined was all fire-resisting, damp-, dust- and vermin-proof. The standard specification reveals the *quality* of the products. They are, for instance, all made on the initial and extension principle, which means that any initial installation can be increased or decreased without interfering with the type of locker first installed.



If you have limited floor space available and a large staff needing lockers, this multiple-tier type is very useful. Shown here is the 4-tier locker which has no interior fittings. It can, therefore, be used for storing documents, stationery, tools and so on as well as personal effects

The locking device to a product of this kind is a good test of quality and usefulness. Milners' lockers are fitted with a clutch bolt, a simple but effective arrangement which is not liable to get out of order. The bolt is secured by a six-lever chromium-plated dead bolt lock with two flat keys. Not much chance here for light-fingered people to get at the locker contents. As there are no projecting catches or hooks, chances of tearing and damaging clothes are eliminated.

The doors are made of sheet steel reinforced by channelling on the edges to keep them rigid. Inside each door are an umbrella clip and a detachable drip pan. Top and bottom are louvred to allow ventilation and air circulation.

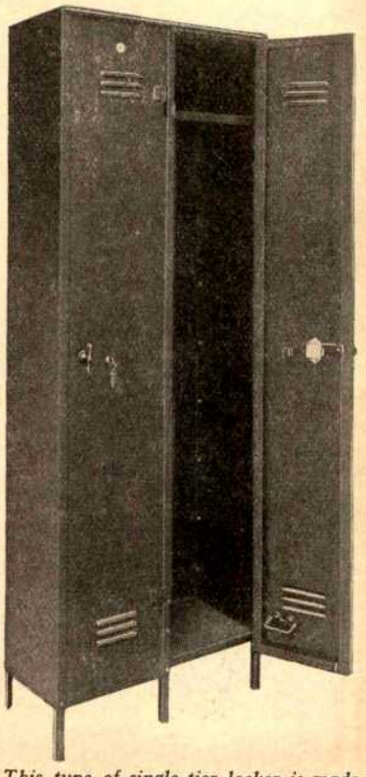
Lockers Are Made To Stand Rough Use

Little points in construction show that the company knows the rough use and conditions which face the average locker. Each upright, for instance, is reinforced by channelling along the vertical front edges, and hinges are electrically welded to uprights and doors. Legs are provided with elongated slots which allow adjustment to meet rough floor conditions—a little point but one which is helpful.

Bottoms of lockers have flanged sides and backs, are smoothed and easily cleaned out. Shelves are of similar construction, while tops are made of special sheet steel formed to a tubular section on the front. This gives rigidity to the lockers. Backs, too, are made of sheet steel flanged at each side to give extra rigid support. Double hat- and coat-hooks of malleable iron, ivorine number plates and, where desired, card-holders, are other parts of the equipment. The standard finish is dark green, stove enamelled.

There are, of course, various types of lockers in standard production. The multiple-tier types for example, are supplied in standardized two- and four-tier units but can be obtained in other unit combinations. Multiple-tier lockers are especially useful where the floor-space available is limited and the staff large. Each unit, for example, of the four-tier locker, has no interior fittings and can be used for storage of documents, stationery, tools, etc., as well as personal effects.

Another type is the combination locker, suitable for use by four persons. One large compartment and four small ones are provided. The large space is provided with a shelf at the bottom, a rail for coat-hangers and coat-hooks at the sides. The door is fitted with four umbrella-holders and detachable drip pans. The four small compartments are for storing hats and for holding personal goods—the kind that many office workers like to store away in their desk drawers.



This type of single-tier locker is made with solid and perforated doors. Internal fittings consist of umbrella holder, drip pan, two double coat hooks and hat shelf. The locker is suitable for use in office or factory

Single-tier lockers are made with solid or perforated doors. These, too, are suitable for use in office, factory or other business premises. The internal fittings consist of umbrella-holder and drip pan, two double coat-hooks and a hat shelf.

Cabinets For Use By Executives

Milners' wardrobe cabinet range is made for the use of executives and other principals, persons who require commodious and convenient cloakrooms in the boardrooms and offices. A cabinet of this kind is equipped with fittings similar to those used in the other lockers except that it has a coat-hanger of special design and a plate-glass mirror.

Cupboard lockers form an economical and convenient way of providing ample storage space for factory staffs. The lockers are supplied in groups of 24. Each group occupies a space of 76 in. high by 49 in. wide by 12 in. deep.

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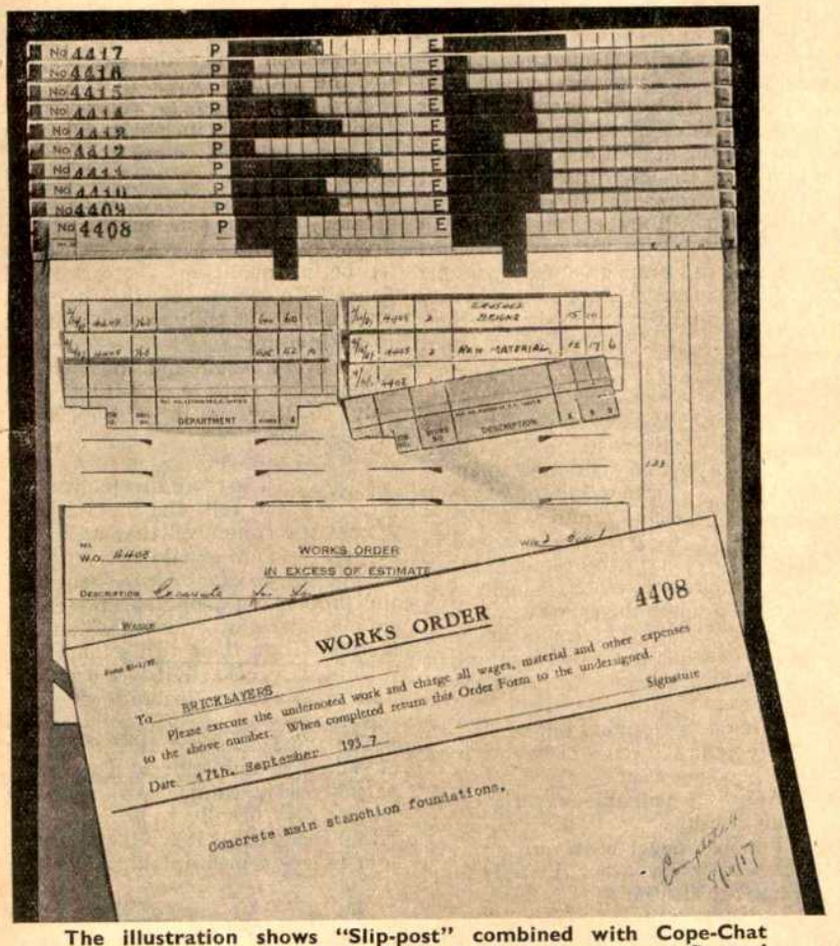

The illustration shows "Slip-post" combined with Cope-Chat Vertical Visible to give "At-a-Glance" Works Programme Control

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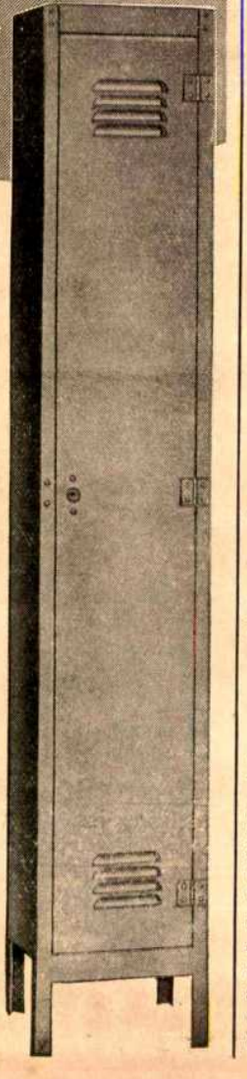

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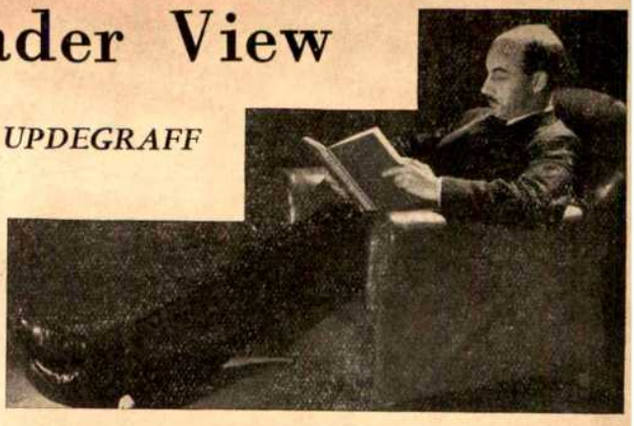
The Broader View

By ROBERT R. UPDEGRAFF

Author of "Yours to Venture"



Passing the Point of Mediocrity In developing any new business enterprise there comes a point at which the developer arrives at a product or a service about equal to what other men in the same line of business have been able to produce and offer to the public.

Unless he can pass that point, and reduce the cost, or produce better quality, or offer more for the money, or improve the design, or achieve better performance, the enterprise might about as well be dropped. It will be only mediocre; it will have tough sledding competitively.

But if he can press on and surpass his competitors in one or more factors, a new zone of possibilities opens before him, and there is, potentially, a successful new enterprise.

It is Very Easy to Object But— When tempted to give the easy, obvious objection to a new plan or proposal that looks foolish or unreasonable or impossible, it is well to stop and remind oneself that no progress is ever made in that fashion. To reject the easy answer, and honestly try to devise *some way* in which the proposed plan or proposal might possibly be worked out, will do at least four things:

(1) Lift one's thinking out of its rut.

(2) Give one the sense of having been fair to the suggestion.

(3) Afford a valuable experience in thinking afresh.

(4) Possibly develop an entirely new plan or project that otherwise might not have come to fruition.

Talks that Build Up When making a talk which is to be illustrated by charts or diagrams or built-up exhibits, construct these exhibits progressively as you proceed. This is a much more effective method than showing them ready built. The audience then goes through the process with you. This has the double advantage of holding interest through suspense, and creating a better understanding of how the end or conclusion came to be arrived at, since this process involves concrete explanation as the chart or diagram or build-up is being carried forward.

Consumer Co-operatives Any business which achieves and maintains any great degree of success is actually a consumer co-operative.

The fact is that the consuming public really "owns" any business, in the sense that as soon as it withdraws its patronage the business ceases to exist.

And the consumers who patronize a business share in its profits in terms of (*a*) lower prices than are available elsewhere for equal merchandise or service, (*b*) better service for their money, (*c*) greater pleasure in patronizing, (*d*) saving of time, (*e*) greater convenience, (*f*) better quality. These are "dividends" in terms of the consumers' interests just as truly as cash is dividend to an investor.

So every successful business is a co-operative venture, and it will prosper only so long as it continues to be co-operative.

Low-Pressure Selling The more I watch people try to sell, the more I become convinced that selling pressure should not be brought to bear on intelligent people; the proposition should be presented in simple, straightforward fashion. The merits will do their own selling.

This very objectivity is usually the best kind of salesmanship, provided it is sincere.

The same does not always hold true of selling to unintelligent people, or to persons who cannot make up their minds; they usually have to be pushed into buying. But it is seldom necessary —or wise—to push intelligent people.

For Instance The phrase "for instance" is one of the greatest educational devices in the world, and equally effective in selling. It introduces a concrete example to illustrate an idea or theory or principle or claim. And it is the concrete which both explains and convinces.

The salesman, the letter writer, the advertising copywriter who makes it a habit to clinch his arguments or illustrate his points with "for instance" will discover that his effectiveness increases and his work is easier. People can seldom be *argued* into or out of their objections or their opinions, but a good concrete experience or *example* will usually win them.

NO MORE BOTTLENECKS..

✦✦When production activities in some or all departments are ahead of the records of the work in progress, there is danger of the whole factory-organisation becoming "bottlenecked" through incomplete recording.

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CONTINUOUS STATIONERY

prevents any possibility of this danger arising.

The PRIMUS System means that on a factory job all instructions are distributed to the various departments without any delay—all necessary documents being issued at one writing. Similarly, records of all completed jobs can be made at one writing. Another batch of documents covering packing, despatch, delivery billing and other work to do with the order can be completed at one writing.

On every known repetitive task stenographers' work is speeded up at least 30%. The time saved may well be even greater according to the type of job to be carried through. Furthermore the chance of error is very greatly reduced.

The PRIMUS attachment, as supplied by us, fits any typewriter and facilitates the smooth flow of continuous forms. It allows the machine at a moment's notice to be used for either billing or ordinary correspondence work.

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the PRIMUS Autographic Register, for use with Continuous Stationery, ensures the same speedy, smooth operation while a copy automatically locked in the machine provides your auditor with a check on each transaction.

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Failure to recognise the conditions buried in figures is the rock that wrecks shop schedules, delays deliveries, increases costs, and sidetracks sales.

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Secure your copy of Bulletin No. 615 to-day. This shows in full colour the practical application of this new device to: Production Loadings—Materials Control—Contracts—Sales—Budget.

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B 084

New Steel and Glass Unit Partitions make Cash, Labour and Space Economies

A NEW type of standardized steel and glass partitions for use in factories, workshops, offices and other business places has been placed on the market successfully by a Cardiff firm. It has resulted in remarkable economies in costs, space and labour.

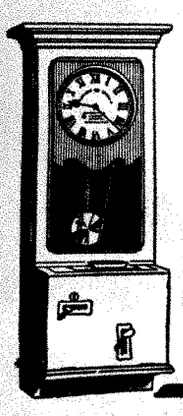
Lend Themselves to Any Sort of Plan

These partitions are built up on the unit system. Panels are interchangeable with steel doors; doors may be single or double, folding, sliding or swinging. The partitions can be set up by unskilled labour, moved at will, used in whole or in part. They form, in effect, mobile factory or office walls that are sightly, strong, durable, rigid and fire-resisting. They are also dustproof, rot-proof and verminproof.

One of the big advantages of these steel and glass walls is that they occupy a thickness of only 1½ inches. The economy in space thus brought about is considerable in a large building. This is particularly noticeable where brick walls and partitions have been used. It is also a factor of importance in some cases where old-type thick wooden partitions are used. In addition, the new partitions are less costly to install than is good wood partitioning. And, of course, they last longer and cost little or nothing to maintain in tip-top condition.

They Allow the Maximum Passage of Light

A further advantage is that such "walls" admit light. In factories, for instance, this is a particularly valuable asset, because it makes easier the job of providing correct illumination for work benches, assembly lines and machines. In a number of cases firms have been able to reduce considerably their light bills. Even the glazed surfaces allow passage of daylight and artificial illumination. Results are better still where clear glass is used.



THROWING MONEY AWAY

Permitting bad timekeeping to continue is worse than throwing money away. Apart from the actual loss in reduced profit, efficiency is steadily undermined, with disastrous results. Let the 'G.B.' System end unpunctuality and slackness in the 'no friction no favouritism' way. *You are paying now for a Time Recorder, and getting none of the advantages.*

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If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.

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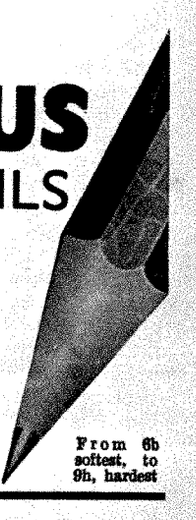


From 6b softest, to 9h, hardest

Modern Equipment turns 'Back Yard' Job into Big Scale Service—*With Profits*

by
CEDRIC E. DAY

CONVEYORS, directional lighting, compressed air lines, electric hoists, light signal panels and loudspeaker systems are some of the modern equipment which, used with factory planning, have now put the garage "side-line" job of car cleaning on an industrial basis. The new "eight-minute car valeting station" opened by Kennings, Ltd., at Edgware Road, London, virtually creates a new type of service. For efficiency, economy, and speed this plant modelled on flow production lines can give pointers to many manufacturers.

A revolution in retailing describes the works and sales side of this venture. But it goes further. It creates new precedents in employment. Following the factory principles upon which the organization is built, women now do what was exclusively men's work.

Equipment Solves Special Labour Problems

Up-to-date equipment makes this possible, as it reduces the need for physical strength and enhances the value of the deft touch and pliable fingers.

The policy behind this development is to put car valeting on a time-economy basis. Mr. Frank Kenning, managing director of Kennings, Ltd., first tried out the scheme in Sheffield. There it is part of a normal car sales and service business. This London plant, however, is planned purely as a car-cleaning service station. Only minor repairs are done. The firm believes that car owners want a straightforward cleaning service as easily obtainable as filling up with petrol. Normally, however, it takes half a day or more to get a "wash and polish". Archaic methods are to blame. The work has been viewed as an individual job; Kennings look at it as a repetition job. Hence they can now wash, clean, and grease a car in eight minutes, a saving of at least some hours, possibly a day or two.

The aims of the firm can be summed up: (*a*) to produce the finished job for a customer at a stated *minute*; (*b*) to do the job as well as or better than is done by the old time-wasting methods; (*c*) to reach 500 cars a day "production". Use of conveyors and factory-type organization has already achieved aims (*a*) and (*b*). Time, recommendations, and advertising are needed to reach full output.

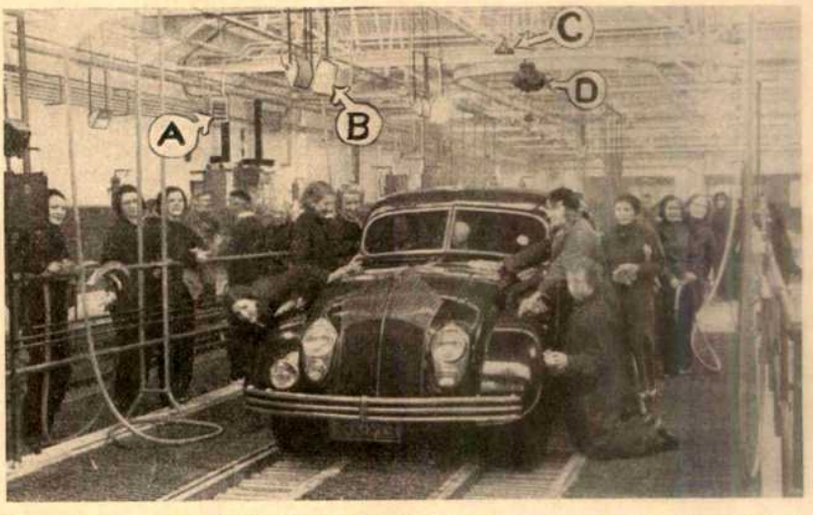
Let us take a quick run through the plant to see how the system works. On entering the building, cars stop by the works office. Here is filled up the job card. Every detail of work to be done is recorded and the card stays with a car in its journey through the plant.

First work is done at two inter-connected pits for draining and refilling oil. Next, immediately ahead, are the twin "conveyor" roll-ways. They are divided into sections: (1) high-pressure washing; (2) low-pressure washing; (3) air-jet drying; (4) high-pressure chassis lubrication and spring spraying; (5) interior vacuum cleaning and body polishing; (6) inspection. Cars are then driven off for (*a*) further defects investigation on a Tecalemit lift, (*b*) tyre slotting, or (*c*) petrol fill-up and payment of account.

Seemingly simple, this eight-minute car servicing. It is. Planning has made it so. Take the building. It is shaped like an L, the drive-in and works being in the long arm, the drive-out and pay-desk in the short run. There is method here. The entrance is in Cuthbert Street, a cul-de-sac. This street, then, can be used when any "piling up" of cars occurs. The exit on to Edgware Road means that clean, sparkling cars are always leaving the works—a good advertisement, if nothing more.

The oil draining and filling pits are fitted with radial drain arm bowls and duplicated sets of nozzles for filling. Each pit can deal with two cars at a time. And here is gathered free heating for the works. The oil drained from cars is stored away, filtered, carried sometimes by pumps and sometimes by gravity to main storage tanks, then to the boiler-room. If estimates are correct, sufficient surplus of drained oil will be accumulated in the busy summer season to fire the boiler throughout the year.

Water used in washing cars is saved, filtered, and used again and again. Grill flooring covers the pits by the conveyors. As the water runs off the cars, it drains through the flooring into a central pit. Leaving its heavy sediment behind in ten "mud tubs", the water passes through three cleaning chambers before going through two filters. From these it is passed back to two 5,000-gal. storage tanks. When the filters need cleansing, flushing pumps reverse the water flow. This forces the dirty water out to the sewers. At such times only is the mains supply taken.



Throughout this car-valeting "factory" little points of efficiency are found in profusion. Here, for example, are women polishers at work as a car is carried forward on conveyors as well as (a) overhead heating, which saves floor space and gives correct distribution of warmed air, (b) directional lighting to "spot" for polishers, (c) lights controlled by individual switches beside workers and (d) overhead electric hoist for removing mud tubs from the pits

Electric Hoist Cuts Handling Charges

Tons of mud collect in the tubs, which are removed by means of an overhead electric hoist located above the conveyors. Dumping mud straight into lorries is thus done without waste of time.

Each conveyor is 123 ft. long and timed to take cars the full length in eight minutes. When the staff become thoroughly experienced, this time may be reduced slightly. Six cars at a time can be on each conveyor simultaneously.

During the eight-minute journey, each car passes through 28 to 30

workers' hands. One of the problems has been to train these men and women to do their work quickly and up to standard. Two methods have been used to overcome this snag: (1) instructional talks by executives and by skilled workers; (2) two weeks' practical experience on servicing cars. This servicing was done free of charge prior to the official opening of the plant.

Duplicated Plant Guards Against Breakdowns

Another interesting point about staff is the employment of women. They work only in the drying and polishing section. The management prefer them to men because they have a lighter touch and are more conscientious over such details as cleaning crevices and corners.

The factory system of sectional foremen is employed. They are the men who take charge of the job cards and instruct the workers what is to be done on the car.

As the essential feature of the plant is quick service, elaborate plans have been made to ensure uninterrupted flow of work. All plant, for example, is duplicated. There are two filters, two storage-tanks, two water-pumps, two Tecalemit water-cooled compressors supplying air at 200 lb. per sq. in., and so on. Each pair of machines can work together or independently of each other. No chance of breakdown here.

There are miles of water, air, and oil pipes, light and power lines, etc., in the building. Each pipe has been painted a specific colour and thus keyed with its control points. Not only does this make easy the maintenance engineer's job, but, in cases of emergency, members of the staff could quickly recognize which control to operate.

On the conveyor line are fitted up small wash-basins and mangles which are used to keep leathers and dusters clean. As soon as a car has passed, the worker rinses leather or duster in the water and squeezes it through the mangle. Another detail is the provision of curved holders for air or water lines. Left lying around, these may easily cause the staff to trip up or may become entangled in the roll-ways, so they are just dropped over the curved rests, ready for use.

Safety Devices Used Throughout 'Factory'

Other safety and time-saving measures include individual switches within arm's distance for cutting off power from the pumps, from the conveyors and other machinery; a light signal panel to show at a glance water levels in the collecting tanks; individual switches behind the fans of the heating units; independent switches for groups of lights, and fire-resisting doors that enable the building to be sectioned off automatically in case of fire. There is, too, a sprinkler system covering the whole building. The moment one sprinkler starts to function, a general fire-alarm is automatically rung.

Heating units are placed overhead, angled to distribute warmed air downwards. They take up no valuable working space. Heat is supplied by hot water-pipes behind which a fan operates, blowing air over the pipes.

Each group of workers on the conveyors can control illumination of their section by means of cord switches. At the finishing end of the line lights are set at an angle to show up defects in polishing. As cars come off the line they are illuminated by Osira mercury lights. These show up, in "daylight" conditions, work done.

A small but interesting point is the use of a model laundry outfit. This consists of a boiler, an automatic washer, and a mangle and a sink. In it are washed leathers and dusters, used in car cleaning, three times a day. Thus is eliminated one of the causes of faulty workmanship.

Another instance of detailed planning is the supply of compressed air in all parts of the building. Even in the boiler-room there is a line. It saves time in cleaning the flue.

Earlier I mentioned that the building is shaped like an L. At the juncture of the long and short arms are placed offices, café, rest rooms, telephones and toilets. Make customers comfortable though the wait is short—this is the aim. Car owners can sit in warm and pleasant surroundings, have a cup of tea or coffee and a snack while they wait. Directly their car comes off the line, it is announced through the loudspeaker system. Loudspeakers are located throughout the building, including the café and rest rooms, so that customers are bound to hear the announcement.

Air-Conditioning Meets Need Of Special Processes in Factories

LAST month we outlined the advantages of air-conditioning in offices. In factories, however, where various manufacturing processes are carried on the function of air-conditioning may be influenced by different circumstances.

In offices it is only the human element that has to be considered: air is "conditioned" to give the greatest comfort and well-being to the people working there. But in factories certain sections may need to be provided with air "conditioned" to meet the physical and/or chemical needs of materials in course of being processed, with human needs as a more or less secondary consideration.

Air-Conditioning The Only Adequate Way

Where manufacturing processes demand such special atmospheric conditions there is no means other than true air-conditioning which can provide them adequately.

Through being able to put under control filtering, temperature, humidity, and movement of air the air-conditioner guarantees to maintain any pre-determined quality of atmosphere for any industrial purpose.

In many factories special manufacturing processes that demand particular atmospheric conditions are confined to definite sections. Where air-conditioning is not installed as a structural unit of the building, it is in such sections that self-contained, portable air-conditioning units are of particular value. Without any structural alteration of the buildings these units can be readily installed.

It is impossible in a short general article of this kind to cite the many circumstances in which these units are effective. So many manufacturing businesses involve so many specialized processes that each must be considered separately, in conjunction with air-conditioning engineers.

The only point the user need remember, however, is that full air-conditioning can be easily and comparatively inexpensively installed in any part of his factory.

Should any readers have missed what we said last month about the nature of air-conditioning, we will repeat the following points: Air-conditioning takes full control of the air supply to a room. According to needs, it warms or cools the in-coming air, humidifies or dehumidifies it, filters it and ensures the necessary complete changes of air per hour (i.e., ventilation) without any draughts whatever.

Thus the technical need for any particular quality of air is always under complete control.

While the self-contained portable air-conditioning units for this purpose are inexpensive when compared with the advantages they introduce, we should explain that they can be obtained on attractive terms: "Pay as you benefit," as one of these unit manufacturers puts it.

●

Conveyors Cut Costs, Speed Up Output In Aircraft Works

PRODUCTION has been speeded up by over 10 per cent and costs have been cut considerably by means of conveyors recently installed in two aircraft factories, one in the Midlands and the other in Lancashire. Hitherto it has not been usual to employ the conveyor system in this type of manufacturing work. Special conveying equipment has been developed for the job by a well-known firm of machinery makers. Results have been very good. Direct savings in labour charges have been substantial. It is expected that savings will be increased when working with conveyors becomes familiar in the industry.

Conveyors are now being made to meet the demands of a great variety of manufacturers. They are saving money and time in factories making pickles, bicycles, furniture, electrical fittings, paper, glass, bricks, and so on.

Would a Factory at this *'Strategic Point'* Estate Smooth Out Your Management Problems?

Selecting a new factory location needs more than consideration of initial capital costs, services charges, etc. Strategy is a key factor. A new factory should give you specific advantages to produce more goods at lower cost and expand sales economically. Primary points of strategic superiority are found in nearness to main markets, abundance of skilled labour and complete transport facilities

By a
'BUSINESS' INVESTIGATOR

AN outstanding recent industrial development is the growth of factory estates on the fringes of London. It shows the influence of the metropolis as a market, a centre of labour and a strategic point in dealing with transport and distribution problems. These are all vital considerations for a manufacturer in light industry who is looking for a good factory site. Hence boards of directors always consider nowadays the London area as well as other industrial districts when searching for a suitable location.

These are reasons why the Barnet By-Pass estate, Elstree, makes important news for manufacturers. It is being planned and developed by a firm of builders and engineering contractors, John Laing & Son, Ltd. As an estate specially *planned* for light industry, with factories built for rental or purchase, it not only provides a good location to-day but a site which will remain valuable for years to come. The plans safeguard the estate against deterioration, a point that is always worth consideration.

These Are The 10 Chief Advantages

There are a number of advantages about this new estate. Summed up, the chief points are: (1) central to the London market; (2) good transport facilities; (3) up-to-date factories for rental or purchase; (4) within easy reach of London docks; (5) skilled and semi-skilled labour abundant in the neighbourhood; (6) electricity, gas, water available in any quantity and at low rates; (7) clean, bracing atmosphere; (8) good housing for workers and executives; (9) low local rates; (10) land for expansion and open spaces around factories.

There is little need to dwell on point number one—nearness to the London market. By road the distance is about 11 miles to Charing Cross. Thus the centre of Greater London's 10,000,000 market can be reached in half an hour. For the outlying parts distribution can be made without having to enter the city areas.

The total area of the estate is 470 acres. Of this about 130 are being used purely for industrial development. The rest is being planned for housing, playing fields, recreation grounds, shops, schools, etc.

The industrial section has a frontage along the Barnet By-Pass road and Elstree Way. The Barnet By-Pass road is, of course, a highway from London to the Midlands and the North. A manufacturer's trucks are "on their way" the moment they leave the factory. The route north is direct and, naturally, connects with main roads leading to places such as Bristol and the West of England, Hull and the Humber ports, the north-east coast and Scotland.

For the South of England roads by-passing London can be used. By this means, too, suburban areas on the other side of the metropolis can be reached easily, quickly and economically. Indeed, tests have shown that, as compared with journeys from points in other suburban but congested areas of London, a saving in time of 25 per cent can be made on road journeys to the docks and similar central parts of the city.

Incidentally, these good road facilities give special advertising value to the site. A "count" of the traffic along the Barnet By-Pass road, taken by the Automobile Association, revealed that 131,031 vehicles passed along the highway during the week ending 26th September, 1937. It is estimated now that about 14,000 vehicles a day now pass along this section of the road. The advertising value of a factory here must, therefore be worth some thousands of pounds a year.

Most manufacturers make use of both road and rail transport. The Elstree estate has the services of two main-line companies, the L.M.S. and the L.N.E.R. Estate factories come within the free delivery and collection area of both railways, parcel and goods traffic.

Both companies give service from main line stations. The L.M.S. operate from Elstree station, the L.N.E.R. from New Barnet station. Goods dispatched from the factory overnight reach any big centre in the country on the following day. For passengers fast trains run from Elstree to St. Pancras and Moorgate in 25 minutes. Buses run to London's West End in half an hour.

A feature of the estate is that all buildings are up to date in every detail. There are no old buildings available. All are brand new. They are designed, planned and built to provide maximum facilities for economic operation. Lighting, for example, is studied from the viewpoint of giving natural light all day in the works and offices. Where artificial illumination is needed fittings are made to suit the special needs of the incoming manufacturer.

Uninterrupted floor space is another point considered. This is planned in accordance with best modern practice to allow economic and efficient layout of plant. Buildings throughout are fireproof or fire-resisting. Concrete flooring, for example, is used.

All factories erected stand on big sites. Ample ground is allowed for expansion purposes, but this is a detail which can be arranged to meet the requirements of individual manufacturers.

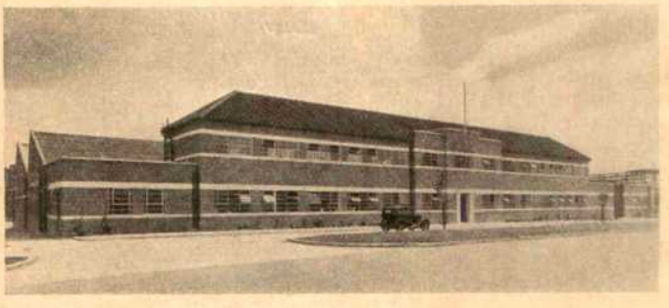
One point of particular interest is that Laing's will construct factories to the specifications of individual firms. If, for your own particular reasons, you needed a special type of building the firm will erect such premises. Even in cases where the factory is to be rented they do this.

From this table you will get a clear idea of the rental charges for standard types of factories on the estate:

Floor space (sq. ft.)	Rent per sq. ft. per annum
4,000 to 6,000	1s. 3d.
6,000 to 10,000	1s. 2d.
10,000 to 20,000	1s. 1d.
20,000 and over	1s. 0d.

These charges are inclusive of water, gas and electric light and power services laid on and the building wired for electric lighting. They do not include rates.

Both electricity and gas companies are helpful to new manufacturers. Both will give technical aid on heating and lighting problems, a free service. The cost of both services is also economic. Here are the scales for industrialists:



Here is a typical light industry factory constructed by Laing's. This attractive building is the new factory of Kaye's Rotaprint Agency Ltd., the firm which sells office printing machines of that name

INDUSTRIAL GAS

		Price per Therm
First	2,500 therms	10.0d.
Next	2,500 therms	9.5d.
,,	5,000 therms	8.0d.
,,	5,000 therms	7.0d.
,,	10,000 therms	6.5d.
,,	25,000 therms	6.0d.
,,	25,000 therms	5.5d.

ELECTRICITY

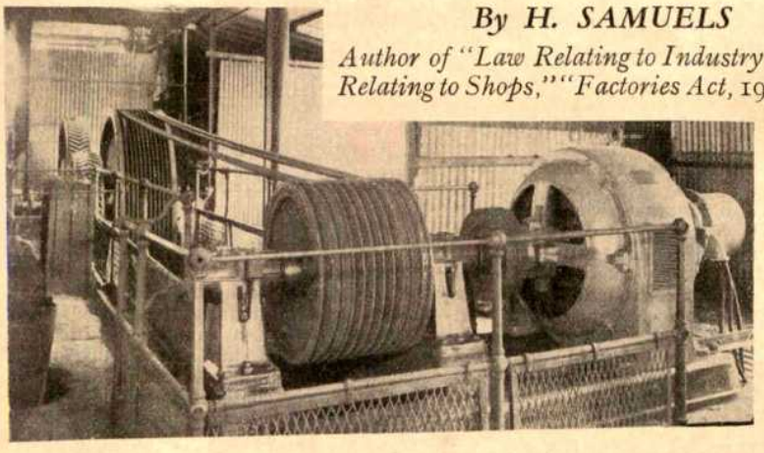
Rates are various according to quantities taken, but the standard charges are: 5d. per unit (for lighting) or 9d. per unit for the first 100 hours' use per quarter; 1d. per unit all further consumption. *Motors and industrial power:* (rate 5) 25s. per quarter per kVA of maximum demand, plus 6d. per unit; (rate 6) 2d. per unit;

(*Continued on page* 36)

What To Do About this Factory Act. *Third Article*

More About Those Provisions For The *Guarding of Machinery . . .*

By H. SAMUELS
Author of "Law Relating to Industry," "Law Relating to Shops," "Factories Act, 1937," etc.



A FEW words of explanation are called for in connection with an important new exception from the machinery guarding rules: it is that men in classes specified by Home Office Regulations may, when necessary, examine, oil, or adjust machinery in motion.

This exception does not apply to the moving parts of prime movers and the other machinery which (as explained at the beginning of the article last month) the Act imposes an absolute obligation to fence.

Nor does it affect the employer's civil liability to pay compensation in the event of the workman being injured in the operation; it only frees him from prosecution.

And, thirdly, in the case of transmission machinery, the operations must be confined to the processes and the methods and circumstances laid down in the Home Office Regulations.

Another exception is allowed where a fixed guard is found to be impracticable. Here a device automatically preventing contact between the operator and the dangerous part of the machine will suffice.

Transmission Machinery

AS regards transmission machinery, the employer will have to make proper arrangements for promptly cutting off power from such machinery in every workroom.

This new obligation does not mean that in a very large workroom, say, all the different sets of machinery must be stopped simultaneously, but it does imply that they must be *capable of being stopped* simultaneously if ever the necessity arose.

A driving belt when not in use must not be allowed to rest on a revolving shaft, and driving belts must be moved from fast and loose pulleys by efficient mechanical means.

New Machinery

IT was a long-standing complaint of manufacturers that they could be landed in trouble by using machinery which they had bought in the market in the ordinary way. "Why allow dangerous machines to be sold?" they asked.

The Act removes this grievance by placing a liability on the *seller* of any new machine to see that every set-screw, bolt, and key on every revolving shaft or wheel is guarded, and that toothed or friction gearing is made safe by encasing or otherwise.

This provision has been in operation, so to speak, in advance of the Act, for it applies to all machines built since last July.

And an agent of a seller is also made subject to this provision—that is the furthest Parliament went in the direction of excluding foreign machinery which did not comply with these provisions. Why its importation could not have been prohibited altogether it is not easy to see.

As matters stand, an employer who buys his machinery from the foreigner direct will only have himself to blame if it turns out to be contravening the Act; he can only protect himself by stipulating, when he orders the machine, that it shall be strictly in accordance with the legal requirements I have referred to above, and by refusing to accept it if it does not.

Young Persons

ONCE the Home Secretary prescribes any machine as dangerous for young persons, a young person will be prohibited from working at it except under proper supervision, at any rate until he has had proper training at the machine and full instructions as to the precautions to be taken.

Floors, Passages and Stairs

THESE must be of sound construction and properly maintained. Every staircase must have a handrail. If the staircase has an open side, the handrail must be on that side. A staircase involving danger (e.g., through its construction or the condition of its surface) must have a handrail on both sides. The open side must be further guarded by a lower rail or other effective means.

Openings in floors must, wherever practicable, be fenced. All ladders must be sound and properly kept.

The employer must provide safe access to every workplace. If any person works at a place where he has not secure foothold and handhold, and is liable to fall 10 feet, the place must be secured by fencing or otherwise.

Lifts, Cranes, etc.

ALL lifting machines and tackle must be sound and properly maintained. Each hoist, lift, and chain must be examined every 6 months, and each crane every 14 months.

The examination is to be done by a "competent person".

Who is a competent person?

The Act does not define it—deliberately, it would seem—nor does it give any power to the Home Secretary to lay down the necessary qualifications. Therefore it is for the employer to satisfy himself in the first instance that the examiner is competent, and there is nothing to prevent his deciding that one of his employees is competent for the purpose. If the authorities disagree with the employer's view, the ultimate resort will be to the Courts. Although the same phrase was used in the 1901 Act in connection with the examination of steam boilers, I have not heard of the Courts having had to decide the point.

The maximum working loads have to be plainly marked.

All hoists and lifts must be incapable of being opened except at a landing, and incapable of being moved from the landing until the gate is closed. They must be built so as to prevent persons or goods being trapped. Lifts for carrying persons must have efficient automatic devices to prevent overrunning. Every cage must have a gate on each side from which it gives access to a landing, and the cage must only be movable when the gate is closed.

New lifts must have at least two separate ropes or chains capable of carrying the whole weight of the platform, and the maximum working load.

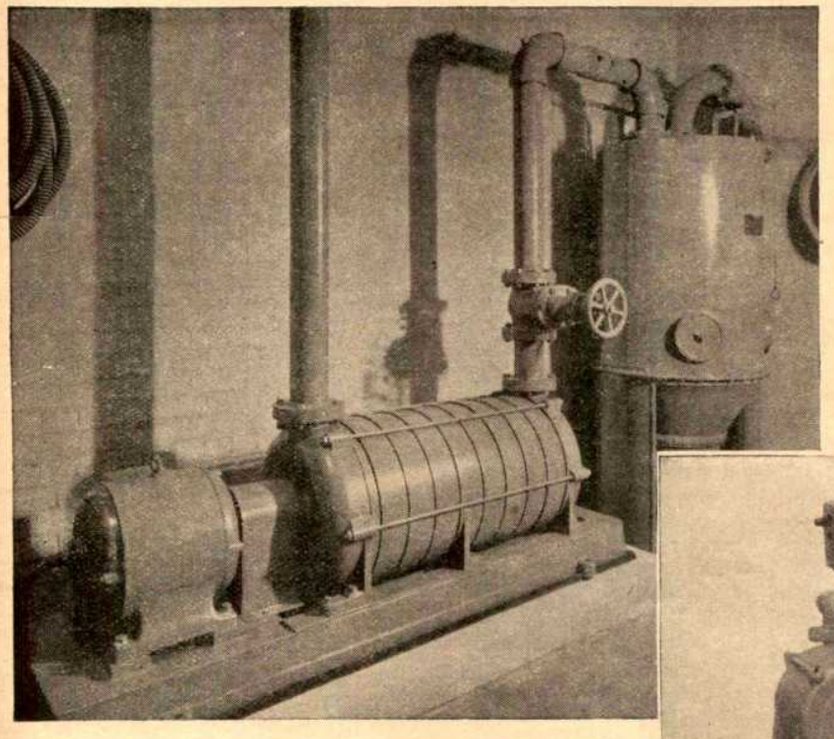
DUST REMOVAL

In Factories and Offices!

DOES THE FACTORY ACT (1938) AFFECT YOU?

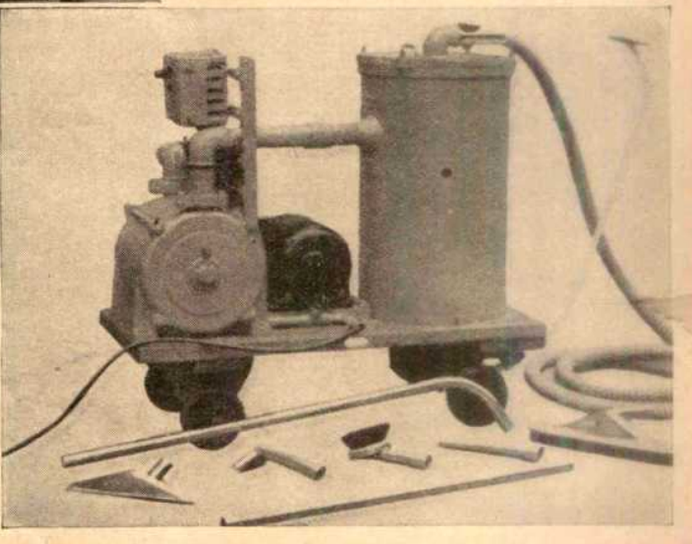
Although the new Factories Act brings the official attention of the Government to the elimination of superfluous dust in Factories and Offices, the need for such health safeguarding precautions has for long had the attention of a great many executives concerned. The British Vacuum Cleaner & Engineering Co. Ltd., the original Pioneers of Vacuum Cleaning since the year 1901, have an amazing amount of evidence to show how manufacturers and other employers of labour have become the users of the well-known B.V.C. Industrial Vacuum Cleaning Plants. B.V.C. Cleaners are to-day installed in the Houses of Parliament, G.P.O. Telephone Exchanges throughout the country, L.C.C. County Hall, Thames House, Southern Railway Carriage Cleaning Sheds, the Garages of the L.P.T.B., the principal Power Stations, countless Cinemas and Theatres, Technical Colleges and Schools, Civic Halls ; and Industrial Works and Factories everywhere. And, above all Competitors, B.V.C. Cleaners have had the honour of being selected for use in the Royal Navy. However difficult your Dust Removal problem may be, it can be solved in the most efficient and economical manner possible by one of the many types of B.V.C. Vacuum Cleaning Installations which are available.

THE ADVICE OF THE B.V.C. EXPERTS IS AVAILABLE TO ALL



B.V.C

VACUUM CLEANING INSTALLATIONS



Above : Plant for Central Vacuum Cleaning Installation for Factories, Institutions and Offices.

Right : Portable Industrial Vacuum Cleaning Equipment.

Whatever your Vacuum Cleaning requirements may be, consult The British Vacuum Cleaning Engineering Co. Ltd., (Dept. B1), London, S.W.6. Telephone: FULham 3333.

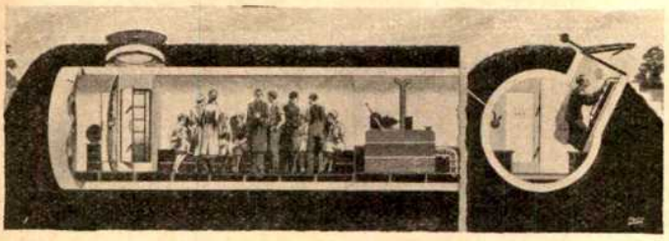
There's a B.V.C. Installation for every Industrial Purpose

O.K. Against Bombs? If Not, This Service Gives You Protection

THE problem of providing air-raid refuges for business staffs faces most firms to-day, especially as the government are making clear that employers are responsible for the protection of those persons under their control. But there is still such little understanding of the needs and technique of the work that many directors are at loss to know what should be done and how much it will cost.

The Air-Raid Precautions Department of the Home Office have had technicians working on this phase of defence for some time now, and have issued instructions and recommendations as to the measures business firms should take. The trouble is, however, to get a practical plan of action for the individual firm mapped out and to find precisely the costs involved.

A service which solves this problem has just been organized by Woodward & Co. (Finsbury), Ltd., a firm of builders and contractors. Mr. F. C. Hibberd, the director of the firm who controls this service, has specialized in the study of gas and air-raid protection over a number of years in connection with Territorial Army work. Under his direction (*a*) your problem is investigated and a scheme drawn up, (*b*) a schedule and estimate is provided, (*c*) the work done, and (*d*) your staff is given a training in anti-gas and first-aid work.



Here is a type of underground, tubular concrete shelter that you may need. It is designed specially for protection of factory workers. Complete specifications for this shelter are now being worked out by engineers

An exhaustive investigation is needed before any decisions can be taken on what is wanted to provide adequate protection. For example, the first things to be determined are: (1) the number for whom a shelter is to be provided; (2) the general structural aspects of your building; (3) the possibility of adapting for shelter purposes some portion of it; (4) the cost of making a detailed survey and report.

The need for such detailed investigation is not generally realized by executives, yet unless it is carried out, time, money, and labour may be wasted, and, in the event of war, lives may be lost.

A popular idea, for instance, is that gas is the greatest menace against which to prepare. This is not true. Technicians have proved that most danger exists in high-explosive bombs. Incendiary bombs are considered the next greatest risk. Gas is the least dangerous.

These are factors which most influence defence plans for factories and other business premises. Except in very special instances, protection against a direct hit by a high-explosive bomb is impractical and uneconomic. It is the effects of blast, splinters, and falling buildings that must be guarded against. With incendiary bombs, which burn at a temperature of 5,400 deg. F., the danger is fire in the upper stories of a building. A small bomb penetrates a roof and burns on the floor immediately below.

Provided people are trained in the use of respirators and other protective appliances, gas, dropped by bombs or spray, is much less of a danger than either of the others mentioned. But gas-proofing of shelters is, of course, necessary.

As you can understand, methods of dealing with these dangers depend on the special circumstances of each case. Your building may be easily adapted to provide adequate protection for all your staff. In that case the cost would be low—say, anything up to £100. But it is impossible to set up any figure as a typical example.

It may be that you have an excellent "below-ground" space which, without expert opinion, you think would provide a first-rate shelter. It is possible you are right, but what are the chances of the building above collapsing, the water or gas mains bursting? And is an air-filtering plant needed? If you have ample space available, you might find it safer to build a refuge by sinking into the ground a large-diameter concrete tube. It needs an expert to decide such matters.

Part of the Woodward service is to look after the irritating details connected with local authorities. Such plans must be approved by the local council, not always a straightforward matter. Plans must, of course, show exactly what structural alterations are to be made and what provision for stores such as sand-bags, sand, gas-proof curtains and screens, etc., is necessary.

Protect *Your* Factory

This article is the first of a series on A.R.P. for business premises, a vital work about which few executives at present know the facts. Unless you know precisely what type of protection your factory, staff and plant need, you may make costly errors and fail to provide real protection.

Future articles will deal specifically with the dangers to be faced—explosive, gas and incendiary bombs. They will tell how protection against these dangers can be provided and at what cost.

It is not possible, of course, to give all the information that will solve your special problem. That calls for investigation by an expert. But the facts given will provide a guide to the type of protection needed, remove many popular misunderstandings on this matter and give you a rough estimate of the costs involved.

Looking For A Factory?

Then Get This Free Book

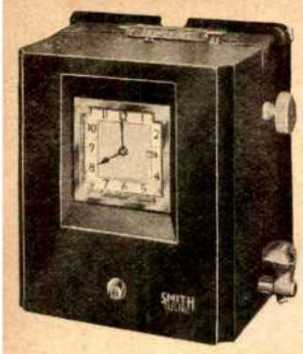
THERE are many popular misconceptions but none more misleading than that which tags an area with a specific industry. The bulk of people in this country—and that goes for manufacturers and other business men, too—will tell you that Yorkshire's industry is wool, Lancashire's is cotton, the North-East Coast's is shipbuilding, and so on. Which is all true. But the trouble is that people tend to think these are the *only* industries in those areas.

Of no district is this more true than of Lancashire. That is why the Lancashire Development Council, Ship Canal House, King Street, Manchester, are to be congratulated on the publication of "Lancashire Builds", a pictorial survey of the development of new industries and factories in the Lancashire area since 1930. As the Council say in the foreword to this 96-page brochure " . . . statistical records and voluminous factual reports, however accurate they may be, rarely succeed in conveying a living impression of the changing scene, and many people prefer to have as evidence that which the eye can see."

The briefest inspection of this brochure will show the remarkable diversity of Lancashire's industries. It will dispel once and for all in the minds of its readers the fallacy that Lancashire relies on its textile trade. The facts are that the area contains, roughly, 2,146 textile factories *and 25,499 non-textile factories.*

Another misconception dispelled by the brochure is that concerning "industrial recovery"—glib phrase but one that really means so much. From 1932 to 1936 the Lancashire area gained 535 new factories, while 168 existing factories were extended. No decay here!

The publication is free to business executives.



. . . you'd never believe the money that machine saves . . .

1 Employees can clock "IN" or "OUT" at any identical moment and the machine will automatically locate the registrations on the card in the correct space.

2 No "SHIFT" lever.

3 A patent punch mechanism prevents intentional or unintentional double recordings.

4 It is a two-colour machine and the colour programme can be set to any specific requirements.

5 Recordings are made on the front of the card, thus accelerating the "CLOCKING IN" rate.

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Telephone: TERminus 2133. Industrial Branch of Smith's English Clocks Ltd., Cricklewood Works, N.W.2.

The SMITH ELECTRIC TIME RECORDER

SMITH'S ENGLISH CLOCKS

Scientific

Walpamur Paints make life brighter and healthier for your workpeople

Industrial and Welfare Research have revealed the importance of bright, interesting surroundings in promoting staff efficiency.

It has been established that clean bright colours do much to reduce fatigue, and the use of wall paints which reflect the maximum of light without harsh irritating glare will avoid the possibility of eye-strain caused by undiffused light.

The use of 'Walpamur' Water Paint or Ferox White for Factories effects a considerable saving on labour costs over yearly limewashing, as they conform to the requirements of the Factory and Workshops Act, and secure exemption from repainting for periods of three and seven years respectively.

- **'WALPAMUR' Water Paint,** for walls and ceilings—a durable, non-absorbent, flat finish which is washable, fire resisting and hygienic—available in over 70 delightful shades.
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- **'FEROX' White** for Factories presents an eggshell finish which is washable and durable and can be brushed or sprayed over old distemper—usually manufactured in white, but any desired colour can be obtained.

Colour cards and further particulars can be obtained from

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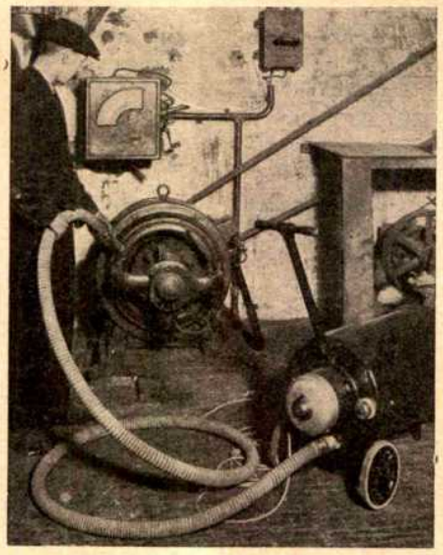
Money and Time Is *Saved* By Up-to-Date Cleaning Plant

ONE of the most prolific sources of illness is polluted air, a fact which is recognized in the new Factory Act by provisions which call for elimination of superfluous dust. For, as is well-known, dust of any kind is a great carrier of germs and bacteria.

It is inevitable that factories, workshops, offices and so on, must face general, as well as specific, dust and dirt nuisances. Those sections of the new Act dealing with this problem make law what is largely the practice of up-to-date firms. Every factory *must* have some sort of extraction plant for removing specific injurious dusts, but modern management goes beyond this point. The aim is to keep down the general dust nuisance to a minimum, to keep the atmosphere as pure as possible. Executives realize that, apart from the welfare standpoint, it *pays* to maintain the highest standard of cleanliness.

There are to-day several ways of maintaining this cleanliness. Modern factory and office layout, new systems of ventilation, and so on, all help to make the job easier. But none of these prevents or takes care of dust that settles throughout a building. To-day that is the job of vacuum cleaners. The old-fashioned method of dealing with this problem was to clean up by hand. Indeed, the nightly invasion of charwomen, equipped with brooms, brushes, dusters, and pails of water, still takes place, but no matter how thoroughly they do their work they cannot clean completely a building every night. The result is that dust accumulates throughout the more inaccessible parts of a building. Even where dusting is done, the effect is mostly to stir up the dust, which soon settles over everything again.



Portable type vacuum cleaner shown here is being used to blow machinery clean, one of many time- and money-saving uses for cleaning plant in modern factories

With vacuum cleaners all this dust is sucked up and taken out of the building. An office or workshop can be cleaned from floor to ceiling. No part is inaccessible. The process is really thorough, and the dust menace is brought under control.

The experiences of firms that have taken up vacuum cleaning show that it pays in (*a*) improved working conditions, (*b*) improved health of labour, and (*c*) longer life of equipment which is kept thoroughly clean. The British Vacuum Cleaning & Engineering Co., Ltd., for instance, have found these three factors quoted by a great number of their customers. In office and factory the results are similar. Even in foundries, for example, the company has found excellent results are obtained.

It is not possible to state here the type and cost of installation that would meet your particular needs. A portable type of cleaner, for instance, can be bought for £50. Included in the price is also this equipment: 30 ft. of electric cable, fitted with wall plug or lamp adaptor; 15 ft. of flexible suction hose; long handle for carpet; floor and wall tools; aluminium tool with swivel joint for carpets; 12-in. brush-faced tool for bare floors; 11-in. brush-faced tool for walls, etc.; aluminium tool for upholstery, benches, etc.; circular brush tool for shelves, etc.; blowing nozzle; 36-in. extension handle; adaptor for use when cleaning tops of pipes, partitions, etc.

There are, of course, other larger portable machines, but I mention this small type to show that, at reasonable cost, you can obtain equipment to carry out a thorough cleaning job in your factory or office.

In many instances a central installation is desirable. In such cases operation is from a central point situated, say, in the basement of a building. Points are placed at strategic parts of the building, and operators merely "plug in" with suction hoses. All matter collected in the cleaning process is carried to a central point and can, therefore, easily be handled for disposal.

Central installations are, of course, built into your premises. They become part of the building. They are particularly useful where dust or waste matter is excessive. But this is a matter which must be discussed in detail with vacuum cleaner engineers before any decision is made.

●

Need A '*Strategic Point*' Factory?

(*Continued from page* 31)

(rate 7) .9d. per unit plus quarterly rental for a time switch.

Manufacturers usually come to special terms with the electricity company. Price is arranged by individual contract.

The cost of water ranges from 1s. 4d. per 1,000 gallons for 10,000 gallons per quarter and less, down to 7d. per 1,000 gallons for a consumption of 1,200,000 gallons and more per quarter.

A great part of the London labour pool [illegible] a supply of skilled and semi-skilled [illegible]kers for factories on the estate. Sec[illegible]ns of the metropolitan area, such as Finchley, Hendon, Edgware, Colindale, Cricklewood, each with populations numbering scores of thousands, are within easy reach of the site. Workers can also be drawn easily from such centres as Boreham Wood, Barnet, Watford and St. Albans. All these places form the immediate labour centres. Other areas within reasonable distances are those of north, north-east and north-west London.

But one of the important features of the estate is the development of housing and other amenities so that workers and executives can live within walking distance of the factories. At the present time plans are laid for building 1,800 houses in the immediate district. About 80 of these are already erected. One section of the estate is set aside for the building of better-class houses for executive staffs.

The value of this development works for the employer and the employee. The estate is in a countrified setting and is from 300 to 430 feet above sea level. The atmosphere is clean and invigorating. *That makes it particularly good as a location for manufacturers of cosmetics, foodstuffs and others that need clean surroundings.*

It is also good for the health of the workers. They keep more fit, active and enterprising under these conditions. This, too, means a gain for employers as the better health of labour reduces absenteeism and leads to greater output per person. It is estimated that, as compared with city conditions, this type of "garden" estate factory gets from 5 to 10 per cent more production per person.

That these conditions will be maintained at Elstree is assured by three facts: (1) 2,000 acres of land in the immediate area are set aside by local authorities as permanent open spaces; (2) no "dirty" type of industry—the kind that makes heavy smoke nuisance or pollutes the atmosphere—will be allowed to locate on the estate; (3) the planned development of the estate and all the neighbourhood will prevent overcrowding with buildings and the deterioration of amenities.

Lubricant, Wear Testing Machine Cuts Costs

SMITH wear and lubricant tester is a machine which has been developed for sound, reliable inspecting and investigating of the abrasive or lubricating qualities of metals and lubricants. It is marketed by a famous London firm manufacturing high-grade scientific instruments.

The machine has a wide range of uses. It is specially valuable for the selection of the best lubricant for any particular bearing or for the choice of a bearing metal for a given purpose. Indeed, it is very useful for investigating almost any problem in which materials are in wearing contact.

NET PROFIT £25.000
NET PROFIT £22.000
NET PROFIT £18.000
NET PROFIT £15.000

SLUMPING FIGURES....

THE BEST WAY TO IMPROVE the POSITION

A contributory cause of this most unsatisfactory position is the UNSATISFACTORY POSITION in which workers—the foundation of all profits—are *sometimes* compelled to execute their various duties. Installation of **EVERTAUT** Steel Industrial Seating, provides proper support and improves the position in which workers do their jobs, resulting in improved health and increased output. Fitness of workers is a matter of National Importance and is fundamental to success. Success breeds success—*slumping figures cause slumping figures.*

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IF you could gather for yourself all the latest news, developments, and the most successful plans in the advertising field, and those selling methods proved soundest in selling practice—

How much would it be worth to you?

Pounds and Pounds! For it would help you to get more out of your advertising and to increase your turnover and profits. But the cost, if you did it yourself, would be prohibitive.

Here is a way you can do it for less than a penny a day.

For in the pages of the ADVERTISER'S WEEKLY there comes to your desk every Thursday just such a complete report as you could wish for, on the most recent news and developments in advertising and selling and in the latest ideas in Press, Poster, Direct-Mail, Outdoor, Sign, Film, Novelty and every other branch of advertising. In addition, you also get Marketing Surveys both regional and overseas, which show you the sales possibilities and facilities in all the markets covered.

To secure all these sales and advertising ideas, facts and data regularly every week, you need simply order your newsagent to deliver "ADVERTISER'S WEEKLY" every Thursday morning. Or, if you prefer, first send a post card for a specimen copy TO-DAY to the Publishers:—

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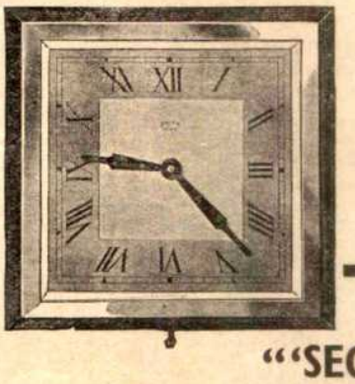

The Delta

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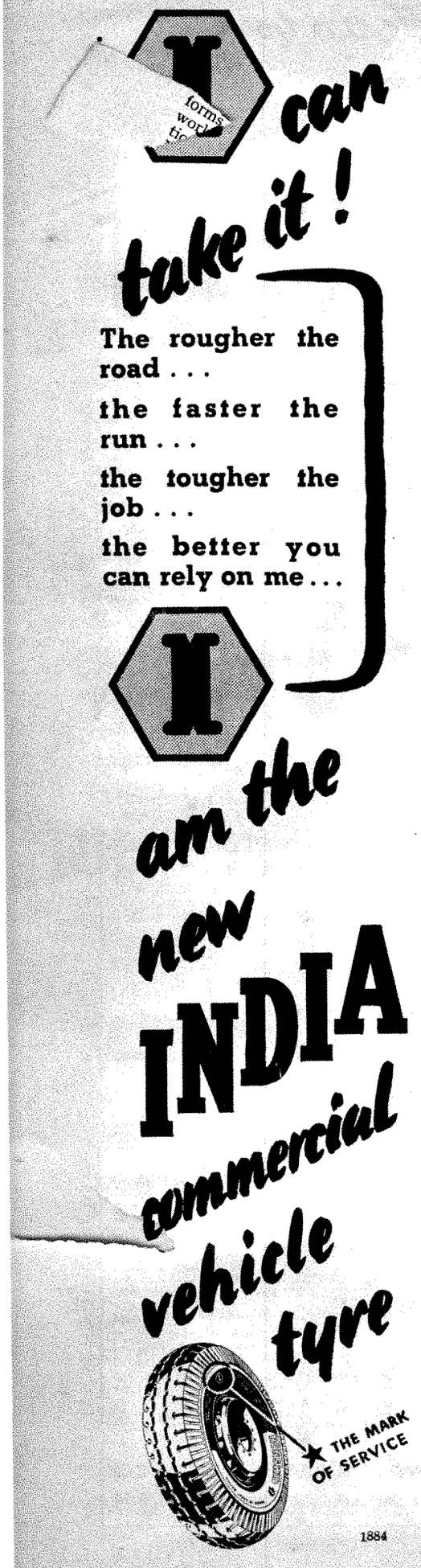
PLUG IN TO GREENWICH TIME

Scientific



Handling
Small Loads At Low Cost

(*Continued from page* 18)

to call for an order at the workmen's canteen. "This is one of our delivery points," came the explanation, "so if you want to test the suspension have a run round the place."

It was certainly a unique occasion, too good to be missed. The Fordson engine develops a good 23 b.h.p., and as bottom gear ratio is 16.9 to 1, I found no difficulty in surmounting sandy gradients of 1 in 4. I was impressed by the excellent distribution of the load over the two axles, while, thanks to the Ford system of transverse springing, assisted by double-acting hydraulic shock absorbers, the vehicle took the very rough ground without swaying or rocking unduly.

The Engine Gives Plenty of Sustained Power

Back on the main road, we proceeded towards the hills, and on the way put up a very good performance on a long and difficult climb, culminating in a 1 in 4 gradient where the engine proved its capacity for putting out plenty of *sustained* power by working best just when one expected the output to *fade*.

Under normal working conditions the small tradesman's van is seldom loaded to capacity when delivering goods of exceptionally severe rounds, so this demonstration produced a far higher standard of performance than one expects in actual service.

Satisfied with the pull of the engine and the grading of the gear ratios for negotiating difficult country, we next tried the all-important matter of speed and efficiency on stop-and-restart work. I was interested to see whether the clutch was up to its job and if the gears would permit really quick getaways.

Under the most drastic tests the entire mechanism was "fool-proof", and appeared quite capable of enduring the kind of treatment meted out by the average driver who thinks more about getting his work done quickly than "nursing" the van he handles.

The Fordson 5-cwt. van is very lively and, having a fine turn of speed, needs checking at times by particularly effective brakes. After a gruelling run up hill and down dale we imposed a severe brake test by first warming the drums thoroughly on a steep descent, accelerating to 30 m.p.h. on a level stretch, then jamming the foot-brake pedal hard down. The mechanically operated four-wheel brakes gives a total area of 85.3 sq. in., and their action brought us to rest easily in 2 seconds.

The hand-brake takes longer to stop the van, but is perfectly effective for parking purposes and will hold the van when fully laden on a 1 in 4 slope without creeping.

One would have thought gradients of 1 in 4 quite steep enough to demonstrate the maximum hill-climbing abilities of a light van of this class, but my butcher companion had different ideas. Some of his regular customers live on a new estate, parts of which can only be reached by climbing a slope of between 1 in 3½ and 1 in 3; otherwise access to Dome Hill near Caterham is quite easy.

When we arrived at the foot of the steep concrete roadway I really wondered if the Fordson was man enough for the climb, and it speaks well for the engineering qualities of the van to record that it made no fuss at all about reaching the highest part of the estate. With a normal load aboard there would have been no trouble in making a clean restart anywhere on the gradient; but, as we were carrying 7½ cwt., I decided not to ask too much from the clutch by making an attempt.

Vans of this type are expected to perform seemingly impossible tasks when delivering goods in rural districts, and from my own observations I am quite convinced that the latest Fordson 5-cwt. is capable of satisfying the most exacting conditions of operation.

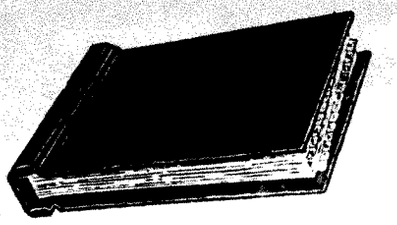
Fuel Consumption Good: Makes for Low Running Costs

Readers will realize that any published results of fuel consumption tests can only be taken as a basis for estimating the mileage per gallon obtainable in actual service, because so many varying conditions are involved.

Nevertheless, with the object of presenting all available information in practical form the Fordson was put through the conventional petrol test.

FACTS AT A GLANCE

Vehicle Tested: Fordson 5-cwt. Delivery Van.
Makers: The Ford Motor Co., Ltd., Dagenham, Essex.
Capacity: 5 cwts.
Body Length: 4 ft. 3 in.
Wheelbase: 7 ft. 6 in.
Fuel Consumption: 44 m.p.g.
Pay-Load Ton Miles Per Gallon: 15·4.
Max. Gradient Climbed: 1 in 3.
Annual Tax: £10.
Vehicle Price: £115.



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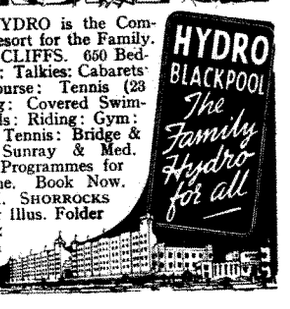
NORBRECK HYDRO is the Complete Holiday Resort for the Family. 60 Acres on the CLIFFS. 650 Bedrooms: Dancing: Talkies: Cabarets: 18-hole Golf Course: Tennis (23 Courts): Putting: Covered Swimming Pool: Bowls: Riding: Gym: Billiards: Table Tennis: Bridge & Whist: Tonic Sunray & Med. Baths: Special Programmes for Whitsun & June. Book Now. Write to J. H. SHORROCKS (Mging Dir.), for Illus. Folder & Terms. Phone: Blackpool North 51072.



FIRE!

Even a modest conflagration in your premises could cause incalculable damage if your more vital records were harmed. Your premises and stock are of course insured, but no insurance could repay the years of effort represented by your ledgers, sales records, minute books and the like. FIRE-PROOFED CABINETS can take care of these at a very moderate cost however, representing possibly less than just one year's premium on less valuable possessions.

Prices from 87/6.

Full price list on application.

H. TAYLOR & SON (London) Ltd.
28 Holborn Viaduct, London, E.C.1.
Phone: Central 2987

The carburettor float chamber was first drained, as a few drops of petrol will take the small Fordson quite a long way. One quart of petrol was next measured into a specially graduated tank coupled to the carburettor and then the run was continued along a good main road.

During the fuel test we were careful to maintain the uniform speed of 30 m.p.h. according to test custom; no "coasting" in neutral was permitted.

On two occasions we were stopped by traffic lights, and progress was impeded at several points by cars and lorries when we had to accelerate rapidly to resume our cruising speed.

We covered exactly 11 miles before the test quart was consumed, equivalent to the remarkable figure of 44 miles per gallon.

Even if we admit the easy conditions of the test, which was uniform with those carried out with other vehicles reported in this series, the result obtained leaves a generous margin for the naturally heavier consumption in normal service; which, under the most difficult conditions, will be very low indeed.

What the Stop-Watch Revealed

When working out delivery schedules the mere fact of a van being able to travel at 50 m.p.h. does not help very much, since the maximum speeds are seldom reached on short-distance runs. On the other hand, very rapid acceleration assumes great importance. My three usual acceleration tests produced the following results:

	M.P.H.	Secs.
(1)	0—30 starting on top gear	23 3/5
(2)	0—30 normal use of gears	10 2/5
(3)	10—30 on top gear ...	24 3/5

These figures give a good impression of Fordson "liveliness" under varying conditions, but they have an even greater meaning if one looks into them carefully.

In the first case the engine has to pick up full load from a standing start on direct drive, with the clutch and transmission dealing with a tremendous initial load.

Test No. 2 is less difficult, but calls for extreme engine flexibility as well as rapid and certain action of the clutch and selector mechanism. It serves also as a good check upon the correct grading of gear ratios to suit the engine torque characteristics.

Quite different conditions are imposed by test No. 3, for while the engine is pulling hard at low speed on direct drive, it is required to produce more power as the accelerator is depressed fully. At the lower end of its speed curve the Ford engine shows great efficiency and in consequence the van can be relied upon for good and economical top-gear performance.

Taking the test as a whole, I think you will agree that it demonstrated the ability of the Fordson 5-cwt. van to satisfy the requirements of the roundsman and the astute purchaser who works out his transport costs to fractions of a penny.

Is this Your Problem?

Whether to keep the windows open or shut is an endless source of argument in most business offices. If they're shut, the room gets stuffy and everyone feels drowsy towards the end of the day; if they're open, you get draughts, dust, traffic noises and your papers start flying about.

SETTLE THE WINDOW CONTROVERSY ONCE AND FOR ALL!

Instal an ILG Extractor Ventilator and *you can keep your windows shut* and enjoy perfect ventilation always. The ILG extracts the stuffy, vitiated atmosphere, giving a continuous change of air without draughts or noise. No costly structural alterations necessary. Fits into any window and costs next to nothing to run.

ILG VENTILATION

Without Draught or Noise

Post Coupon or Phone WHITEHALL 3091 or 8081 to see a working model

AIR CONDITIONING ENGINEERING (G. W. Cross & Co.) Ltd.
95 Petty France, Westminster, S.W.1

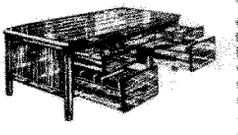
I would like to see a working model of the ILG Extractor Ventilator.

Name .....

Address.....

.....

Don't Wait For Figures—
keep them in a **WATLANE**



What an asset to executives to have figures and facts at hand without even waiting for secretaries to produce them.

Watlane System Desks are designed so that you can keep all vital information and documents etc. such as you constantly require permanently within handreach. Also they're designed for comfort and ease when in use.

Let us send details

WATLANE CABINET CO
15 Grange Rd., Willesden Green, N.W.10

10% – 50% Better Results from your Printed Advertising

Do you doubt that a brilliantly produced piece of printed advertising brings better results than a dull, unattractive one? Of course you don't!

You know that the more striking and convincing sales literature is, the better the results it brings—and you want *your own* literature to be striking.

WE CAN HELP YOU—BY EVOLVING REALLY ARRESTING LAYOUTS AND PRODUCING THEM IN FIRST-CLASS STYLE.

Would you like to see specimens?

J. W. RUDDOCK & SONS
Printers and Advertising Consultants
LINCOLN
and at 3 Old Jewry, London, E.C.2

A FREE SERVICE

SUBSCRIBERS are entitled to free information concerning Products, Appliances or Services

We will advise, secure printed particulars and, if desired, put you in touch with firms supplying services or products in which you are interested.

Service Department,
BUSINESS,
Whitefriars House, Tallis Street, E.C.4

This Administration Plan Gives a Daily Profit & Loss a/c—By Jobs

(*Continued from page* 10)

the different sections and finishes and give the totals of all the various sizes produced under these headings.

The weight of rods used is determined by adding an estimated percentage of scrap to the production, and the value is calculated from the average price of the stock in the stock ledger, to which reference will be made later.

Scrap is priced at the current market price, and the amount which will be recovered is deducted from the value of the rods used, to give the net charging cost.

We must now break away for a moment to see how the cost is obtained which will ultimately be charged to these cost unit cards.

A cost of production for each process is compiled on Cost Statements (shown on page 10), which record every item of expenditure as compared with a "standard". This standard represents the cost of the various items of production under average conditions and is scientifically compiled from past experience and the performance which is expected from the plant and equipment in the department. It reveals instantly the slightest divergence from normal practice: and may show, for example, an increased acid consumption in the cleaning house, which may be traced to the cleaning of wire that has remained overlong in stock, or to the bad condition of the rods which need a stronger mixture to remove the excessive scale.

Thus these cost statements act as a searchlight upon the activities of a department which would otherwise remain ignorant of its weaknesses and oblivious of its success.

The expenses are allocated from these cost statements to the various cost unit cards so that the total expenditure for one week, which of course balances with the financial accounts, is charged to the production for the same period.

We Have Now These Key Cost Figures

The costing routine is now complete. We know what every size of every quality, section, and finish of wire has cost, both for the quantity produced and the cost per unit. We also know the production and average cost of each quality, each quality and section, each quality and finish and each section and finish. We have also the average cost of the *total* production. We also know our raw material stock investments.

The next step is the compilation of the stock records which involves transferring the output and cost of production from the cost unit cards to the stock accounts (Fig. 3). This operation is familiar to everyone conversant with cost accounts, and no doubt the majority are quite content to copy the necessary figures, either by hand or with the aid of a machine, from one form to another.

It will be noticed that at the bottom of the Slip-Post unit card there are two sets of vertical and horizontal cuts on each corner of the card. These are so designed that they can be attached to the stock ledger sheet by means of horizontal slots, suitably spaced to give visibility to the top line of the card which shows the production and the cost.

By inserting the cost cards into the horizontal slots in the respective stock accounts the copying of figures is entirely eliminated, and the possibility of errors in posting ceases to exist. At the same time the stock account is providing a safe home for the costs which are readily accessible for future reference. The time saved on this operation is obviously very considerable, and in addition to the posting and subsequent balancing there is also a saving in the time and space which would otherwise have been taken in filing the cost unit card.

[The "Paramount" (Pat. Nos. 225069/297992) and "Slip-Post" (Pat. No. 435868/35) systems mentioned above are produced and marketed solely by The Copeland-Chatterson Co., Ltd., of Exchange House, Old Change, London, E.C.4.—*Ed.*]

MANIFOLDIA LTD. of WEST BROMWICH
are manufacturers of
"QUIKWAY" CONTINUOUS FORM STATIONERY
"QUIKPART" CARBON LOADED SETS and
STATIONERY FOR MACHINE ACCOUNTANCY

USE THIS COUPON

If you desire information from the Editor or from Advertisers attach this coupon, which should be signed by a responsible executive, to your business letterhead and post to:—

BUSINESS Service Department, Whitefriars House, Tallis Street, E.C.4.

Please send, without obligation, more information in connection with advertisement (or advertisements) in the May, 1938, issue of BUSINESS numbered below.

Numbers (*see Index, page* 5).....

Firm.....

Address.....

.....

Management Trends

(*Continued from page* 9)

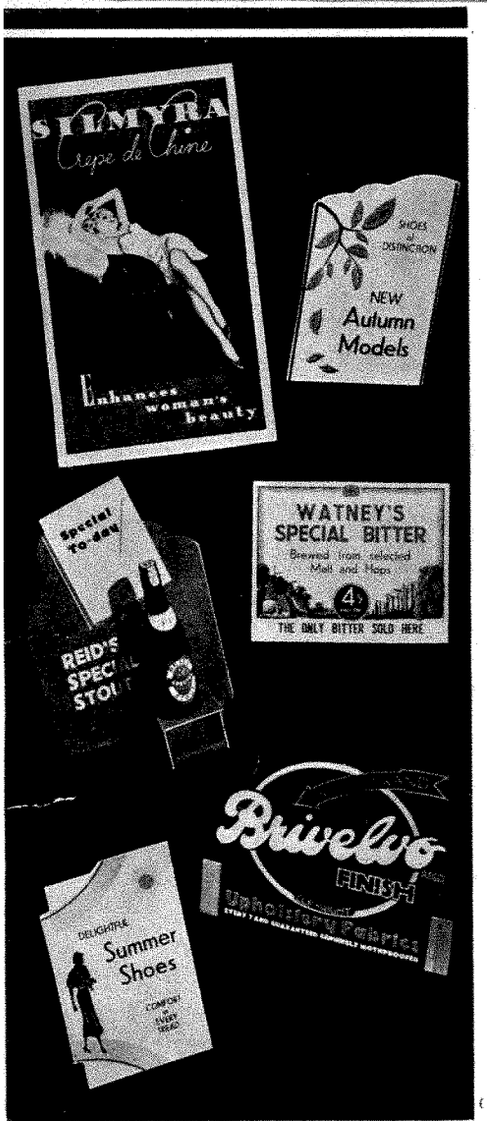
rating and for Schedule A of the income-tax. It is clearly inequitable that such expenditure should lead to increased local and national taxation.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

MAY, 1938



"... the advantage of being able to change my display matter to suit the Season at a moment's notice is a great economy over my old method of committing myself to so many thousands of cards which had to be used up in season or out"

says T. Pettigrew, of the Beverly Hills American Shirt Co.

22 ADDLE STREET, LONDON, E.C.2,
21st APRIL, 1938.

Messrs. Masson Seeley & Company, Ltd.,
Masseeley Building,
Howick Place,
WESTMINSTER, S.W.1.

Dear Sirs,

I feel sure you would like to hear of the great success of the Beverly Hills shirt, because I am convinced that no small measure of credit in my advertising campaign for putting this shirt before the public, must be passed to my Art department and the efficiency of your process.

We have been able to produce small or large quantities of showcards, etc., —as the occasion warranted—with great rapidity at very small cost, and the advantage of being able to change my display matter to suit the Season at a moment's notice is a great economy over my old method of committing myself to so many thousands of cards which had to be used up in season or out.

I am very glad to see that my cards are being well used by my customers, as I am almost as proud of them as I am of the Beverly Hills shirt itself.

The many attractive displays I have seen, I can assure you, have done us both great credit.

Yours faithfully,
For BEVERLY HILLS AMERICAN SHIRT CO.,
T. Pettigrew.

THERE IS A MASSEELEY UNIT SUITED TO EVERY MANUFACTURING AND RETAILING BUSINESS

MASSON SEELEY & CO. LTD.

Masseeley Building

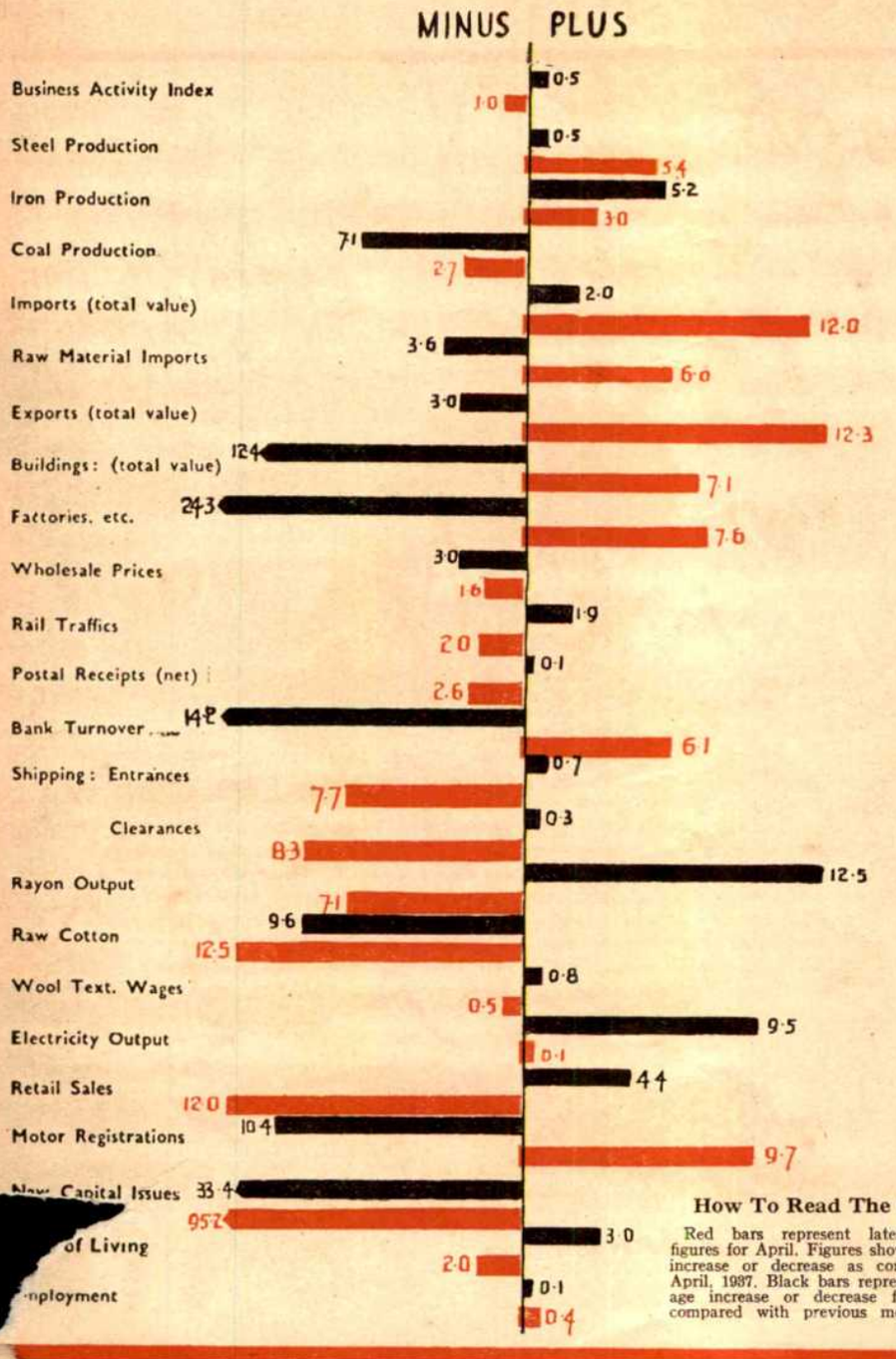
HOWICK PLACE · WESTMINSTER · S.W.1

Telephone VICTORIA 2151 (3 *lines*)

BUSINESS ACTIVITY FACTORS OF THE U·K

There is still plenty of encouragement in latest key figures. Look them over on the bar chart below. Business activity, all-embracing index of the general level of British business, is just up on the figure for this time a year ago. Steel and iron continue to keep ahead but building is still declining. That is not so good but with summer approaching improvement here can be looked for. Wholesale prices are down, which is more favourable than otherwise. Retail sales are up again, 4.4 per cent this time. Very good, this. Cost of living, though falling now, is still up as compared with that of a year ago. You can expect a decline here, which will increase spending power in the mass market. Measure up your business activity against these factors.

22 VITAL FACTORS



How To Read The Chart:

Red bars represent latest available figures for April. Figures show percentage increase or decrease as compared with April, 1937. Black bars represent percentage increase or decrease for April as compared with previous month—March.

THE BUSINESS TREND

An Upturn

By CEC

TO-DAY, this month's bu ness is apt to be the seq to the month before las politics. April has given good example of this sequen It has set the stage for bet business next autumn: yet eve day business suffered at all poi from the shocks and alarms February and March.

Only a month ago we were f of pious aspirations, saying: ' only we could come to an agr ment with Italy the tension Europe could be slackened, bu ness would have a chance reviving; if only Preside Roosevelt would be reasonal American confidence would vive, Throgmorton St. would able to breathe again! If or some of the big companies wou put out better balances, ever body would be more confident All this with a shake of the hea as much as to say, "but wh chance is there?"

Everything In European Garden (Almost) Lovely

WITHIN a month all the desirable things have ha pened. The Anglo-Italian (pr visional) Treaty has been signe even France expects the Du will toe the line. Already t tension in Europe has p ceptibly lessened. Preside Roosevelt is back to pum priming and American busine has won a successful compromi over the taxes. The reports the I.C.I., J. & P. Coats and dozen other companies have co founded the pessimists. T vital steps have been tak towards stopping the tempora recession: further there is assurance that our largest co cerns are still working to capaci and making handsome profits.

If the future is brighter t past is certainly taking its to The decline in orders exten from the iron and steel trade shipbuilding, the motor and ti plate industries through the e tire range of textiles to buildin Tinplate output has been fix at 60 per cent of capacity, co pared with 80.5 per cent la September.

ALFRED BATES & SON LTD
The NATIONAL Advertising Service
130, FLEET ST., LONDON

...ould Start

...HISHOLM, M.A.

...ade Slower, Output ...wn, Staff Laid Off

"THIS lack of orders is already beginning to make itself felt the Midlands; many motor d accessory concerns are cut- g down their staffs, unem- oyment has risen seriously in e cotton, woollen and linen lds; only 173,000 gross tons of pbuilding were commenced in itish yards during the first arter of this year which com- res with 368,000 gross tons ring the second quarter of 37 and 217,000 gross tons in e last quarter of that year. nfortunately we are even get- g a smaller share of the rld's shipbuilding: 28 per nt at the end of March com- red with 34 per cent a year o. With freight rates 32 per nt below the figure for last ptember and shipbuilding sts up, there is little incentive owners to build. It is to be ped that America may send us ne of her mercantile building ile her enormous naval pro- amme is under way.

Business Regional Indices

here is an upward trend showing on the ional indices again. Look at them. And master index, too, reflects the rise, of which is good news and in line with forecast made here in the previous issue BUSINESS.

n the three instances where the figures brought up to March—that is, London, th England, North and Midlands—the ht but encouraging rise can be seen. Wales and Scotland the evidence not be shown in the indices as certain returns are not available to keep these regions as up-to-date as the others. xt month's charts will reveal, however, ether or not these two follow the general d. From facts in hand we think it is ly that they will.

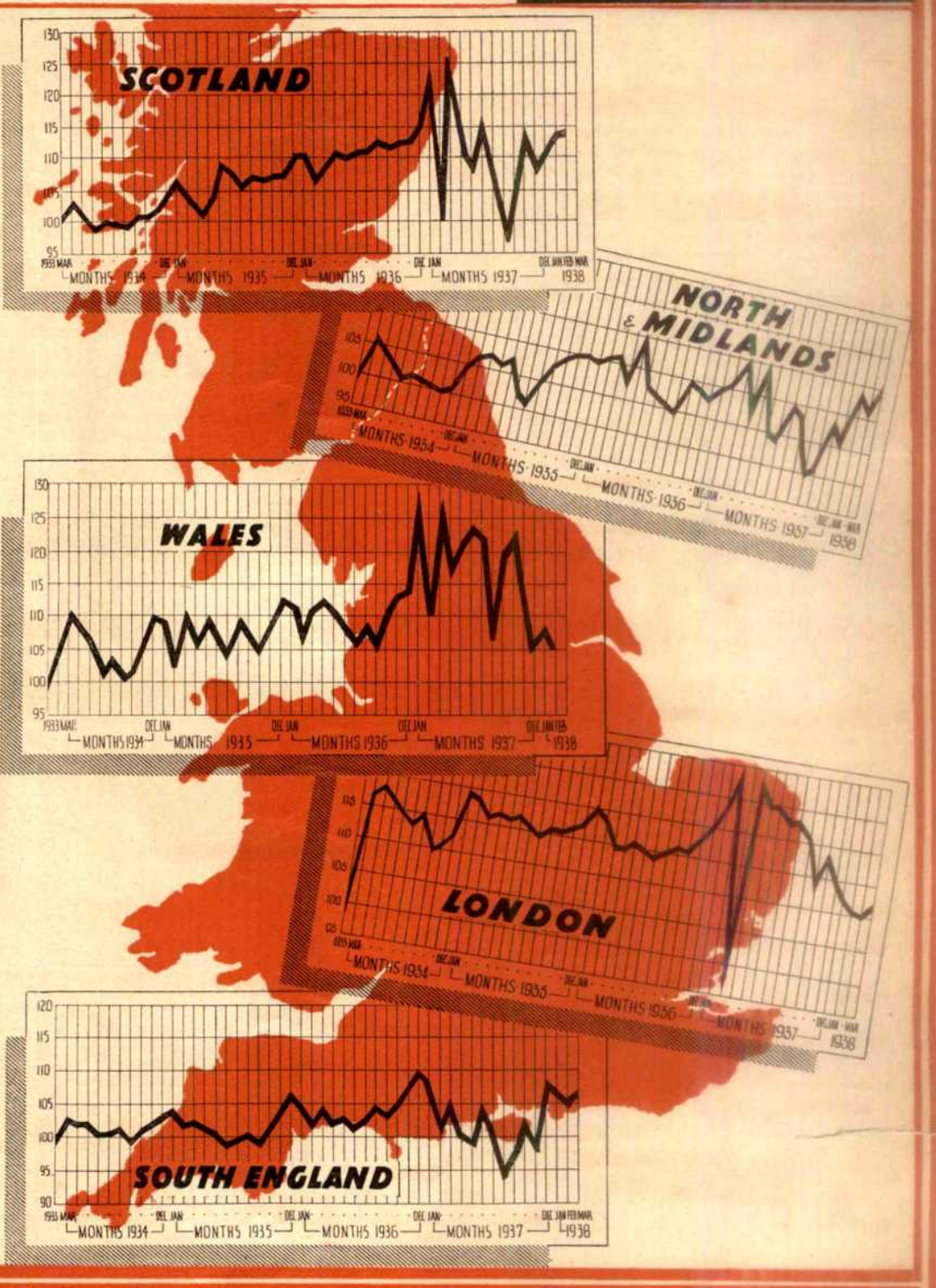
o doubt the drop in unemployment and rise in employment (two different ures) plus the good retail sales figures ve contributed to the improved showing all regions. The Midlands and North , for instance, is the most substantial— rly 5 per cent up as compared with ruary and nearly 2 per cent up as npared with January. But if existing ditions in this region do not improve ckly you can look for a slight drop here. ondon, up 2.2 per cent and the south, nearly 1 per cent, are the other rises. ey are not sensational but they are com- ting. Despite lack of confidence, busi- s activity is not only substantial but king slight headway. And this should p restore a livelier tempo.

Latest figures for Scotland—February—ow a rise of nearly 1 per cent as com- red with January, which is healthy. otland should progress. But Wales is wn, a fact probably reflecting slackness iron and steel. That will quickly be overed as business briskens.

Reading the Indices

For these new indices, the average busi- s activity in each area during 1933 is en as the base (=100). The indices are en by months.

BUSINESS REGIONAL ACTIVITY INDICES



53, LORD ST., LIVERPOOL
68, GORDON ST., GLASGOW
12, LEEDS RD., BRADFORD
25, NEW BRIDGE ST., NEWCASTLE
74, GEORGE ST., EDINBURGH

While the fall in housing plans was only 9 per cent, factory plans fell by 24.3 per cent. Clearly the government's rearmament building is coming to an end. It is impossible to say yet whether the new expansion of the programme will demand further building. Experts think not.

'Humpty Dumpty' Disease Attacks Many Industries

THE fall in iron and steel orders applies to all but the heaviest raw steel. It is the result of the combined building, motor, and shipbuilding recessions.

The fall in textile sales is but a slight reflection of the fall in shop sales plus the considerable over-stocking of a few months ago, when raw materials were rising.

More mysterious is the fall of motor car sales for the second month in succession, for it applies to the cheapest as well as the most expensive cars. This is not in line with the general experience of the present recession. For everyone admits that it is only the West End department stores and luxury showrooms, with their counterparts in the great industrial centres, that have suffered. Only the security owning, Stock Exchange conscious, classes have pulled in their purse strings. The working class is earning and spending more lavishly than ever outside Lancashire.

Yet at the turn of the year car sales of 8 h.p. dropped without helping more expensive models. Makers believe that the former type goes mainly to families with an income of £400 to £600 a year, not necessarily earned by one member of the household. Why have these sales also dropped? None of my friends among the motor manufacturers can explain it; the research experts whom I have consulted are dumbfounded. Can any reader give us the solution to this sales conundrum by next month? It will be helpful to many sales managers in other lines.

3-Phase Pointer Tests A Class Market Confidence

THE nice question is "How far will the signing of the Italian Treaty, the improved situation in America, and rather more cheerful stock exchanges affect the middle class and upper class buyers?"

This reaction will settle whether the recession continues its slow but certain progress or whether it is held.

Much depends on whether President Roosevelt can improve the American situation even by becoming more reasonable in his demands for business. Yet as he pumps £600,000,000 into public works and other undertakings, as he frees £280,000,000 of sterilized gold, as he gives powers to the Federal Reserve Banks to reduce the reserve demands of member banks reserves by £150,000,000, Wall St. and big business react but sluggishly. The odds on American revival can be no better than 50/50.

Most encouraging was the increase in employment during March, although it was not up to normal, particularly in the textile industries.

Cash Sales Play Hide And Seek With Volume

LESS encouraging is the R.D.A.I. analysis of sales during 1937. This proves what I have previously suggested, that the rise in cash sales masked a fall in volume sales. Clearly the long expansion in volume of sales was sharply reversed last spring, since when it has declined in the chief departments. Here is the explanation, apart from over-stocking, of the fall in demand for consumer goods during the past few months.

This month will be crucial. Either renewed confidence will set the middle class buying again and thus counter some of the bad effects of the slowing down of textiles, tinplate, shipbuilding, motors and building. Or the middle classes will fail to take heart and we shall have a rather more difficult time: not an extremely difficult time because rearmament, the relatively high level of house building orders and the prosperity of the working classes will prevent any serious slump.

SCOTTISH ADVERTISING AGENTS

understand the Scottish Market thoroughly

Personal Service...

The Products of many well-known Scottish firms are advertised by Maxwell Nicholls and Partners. Formed in 1913, the Agency has offices in Edinburgh and Glasgow, each under the direction of a resident partner with an intimate knowledge of Scottish advertising problems.

MAXWELL NICHOLLS AND PARTNERS

Registered Practitioners in Advertising

71 George Street, EDINBURGH
45 Hope Street, GLASGOW
84 Albion Street, LEEDS

In Scotland

leading manufacturers entrust their advertising to the Agency known for its good service, its understanding of markets and its technical efficiency.

David H. Pearson

Advertising Ltd.

113 WEST REGENT ST.
GLASGOW, C.2

Advertising
GENERAL & TECHNICAL

THE R. G. BROWN
ADVERTISING AGENCY
166 BUCHANAN ST., GLASGOW
Phone: Douglas 1214/5
Grams: "Syren, Glasgow"

★

MITCHELLS
-for preference

COMPLETE ADVERTISEMENT SERVICE
68 GORDON ST.
GLASGOW, C.1.
Phone: Central 1205/6
Grams: Mitchelad

The McMURTRIE
ADVERTISING SERVICE
11 BOTHWELL STREET
GLASGOW, C.2.
PHONE CENTRAL 1955-34

Registered Practitioners in Advertising

SOMMERVILLE AND MILNE

REGISTERED PRACTITIONERS IN ADVERTISING

19 ST. VINCENT PL.
GLASGOW C.1

TELEPHONES
CENTRAL 1656-7

PHOTOGRAPHERS
COMMERCIAL ARTISTS
PROCESS ENGRAVERS

EMPIRE EXHIBITION
BELLAHOUSTON

We extend an invitation to YOU to visit our Studios and Works, when in Glasgow.

SCOTTISH STUDIOS
& ENGRAVERS LTD.

196 CLYDE ST.
GLASGOW
PHONE CEN. 6472-3

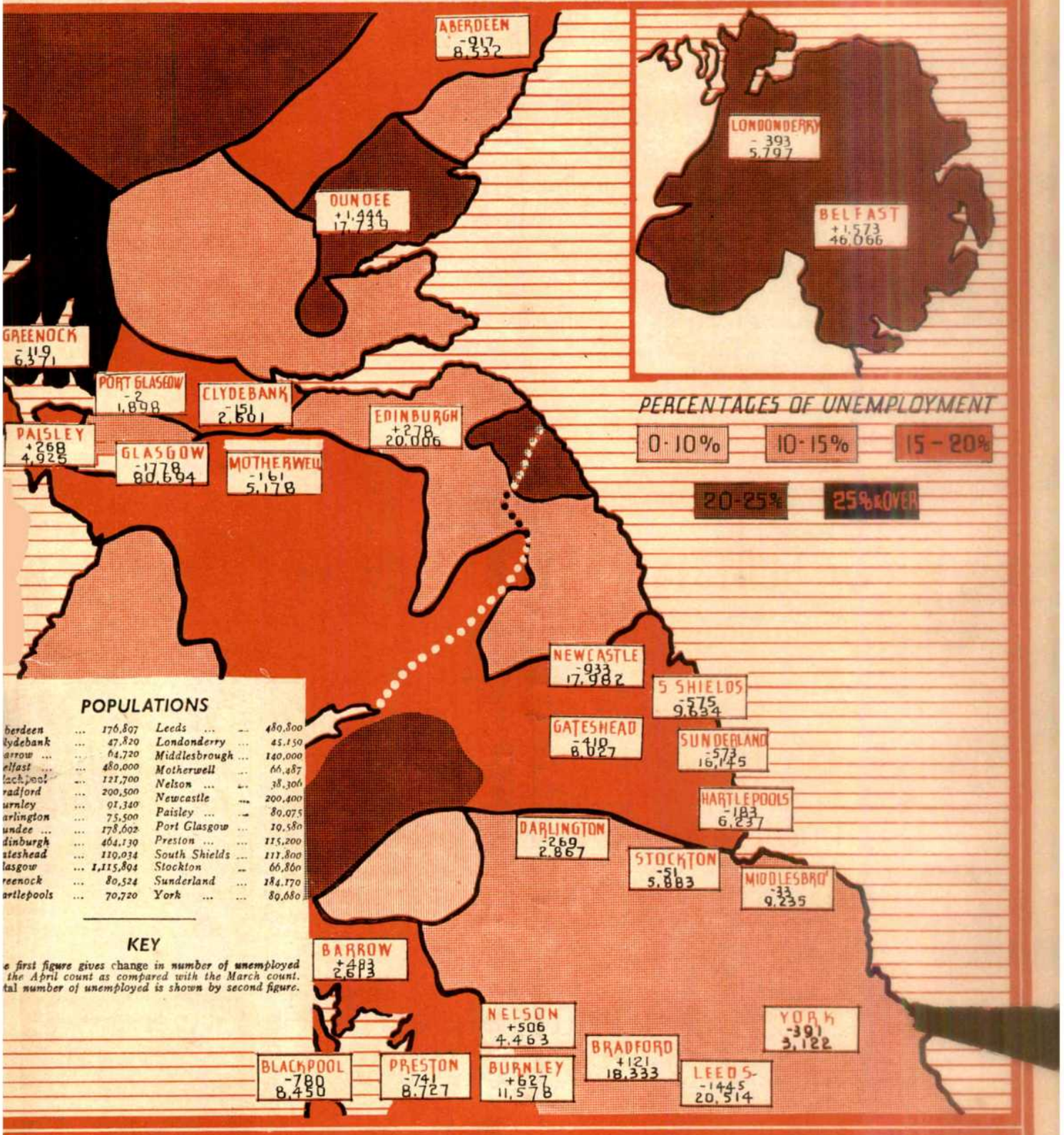
ON THE SPOT

On all matters relating to Scottish Advertising it is advisable to seek the aid of the Agency on the spot. We have had over 50 years in which to study Scottish Folks and can very capably settle your Scottish appropriation problems.

PETER A.
MENZIES
111 Bath Street, Glasgow
Telephone: Douglas 2354/5
Grams: Menzads, Glasgow.

"BUSINESS" SURVEY OF HOME MARKETS

SCOTLAND and THE NORTH



POPULATIONS

berdeen ...	176,897	Leeds	480,800
lydebank ...	47,820	Londonderry ...	45,150
arrow	64,720	Middlesbrough ...	140,000
elfast	480,000	Motherwell ...	66,487
lackpool ...	121,700	Nelson	38,306
radford ...	200,500	Newcastle ...	200,400
urnley ...	91,340	Paisley	80,075
arlington ...	75,500	Port Glasgow ...	19,580
undee	178,602	Preston	115,200
dinburgh ...	464,130	South Shields ...	111,800
ateshead ...	119,034	Stockton ...	66,860
lasgow ...	1,115,894	Sunderland ...	184,170
reenock ...	80,524	York	89,680
artlepools ...	70,720		

KEY

e first figure gives change in number of unemployed the April count as compared with the March count. tal number of unemployed is shown by second figure.

Scotland! "The Scotsman"

THE EMPIRE EXHIBITION • GLASGOW • MAY — OCTOBER

You are cordially invited to visit our Pavilion which features Teletypesetting demonstrations. *The Scotsman* —the Country's National paper—introduced Teletypesetting into Europe, and now has the largest Teletypesetting battery in the world

Head Office:
North Bridge
Edinburgh

ART WORK FOR ADVERTISING

Is more than just making drawings. However good a drawing may be, if it doesn't sell the goods, it's a bad drawing. Our artwork is not only good art but good advertising.

RALPH & MOTT

Creative Service for Advertisers

ADVISERS — ARTISTS — COPYWRITERS
46 GILLINGHAM ST., S.W.1
Telephone VICTORIA 7362

ALL that is New, Original, Proved, Practical and *Usable* in ADVERTISING and MARKETING

Comes to You In The

ADVERTISING MONTHLY

1/-

...clusively to ...of Business ...irectors and ...whose Job it is ...aen Distribution and Increase Demand

Order from your Newsagent TO-DAY or write for Specimen Copy to the Publisher, The ADVERTISING MONTHLY, Whitefriars House, Tallis Street, E.C.4

PRINTING

- designed with intelligence
- backed by experience
- produced with speed

BEMROSE & SONS LTD

AFRICA HOUSE · KINGSWAY . LONDON W·C·2
MIDLAND PLACE · DERBY

---

drive it home!

There are various ways of bringing your manufactures to the notice of buyers. The well-illustrated printed piece is one of them. If you are a user of artwork, photography or blocks, ask us to quote for any or all of these items for your next production. Our work is good and is claiming the attention of many advertisers — large and small.

KNIGHTON & CUTTS LTD

BLOCKMAKERS, ARTISTS, PHOTOGRAPHERS, TYPESETTERS, ELECTROTYPERS, STEREOTYPERS • HAM YARD, PICCADILLY CIRCUS, LONDON, W.1 • PHONE: GERRARD 5231 (many lines)

Any job of MAILING is a job for PERRY'S

MAILING SERVICES LIMITED

DIRECT MAIL ADVERTISING CONSULTANTS
Addressing · Enclosing · Mailing · Facsimile Letters
PERRY HOUSE, 120/128 UNION ST., S.E.1

ADVERTISING SERVIC

Let's Get Down to Brass Ta

Are you satisfied with your present Sales ature. Most Businesses have not yet disc the ONE IDEA that will produce the g response from the markets they wish to e My first aim is to remedy that deficiency.

Booklets — Advertisements — Direct

Box 375 Business

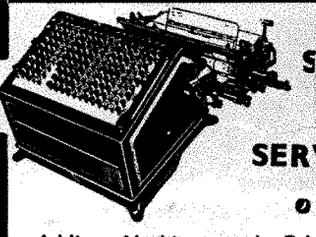
Whitefriars House, Tallis S London, E.C.4

Do you sel by mail?

If you use circulars for securing o or enquiries, send us specimens o publicity you use, and we will free recommendations for incre your results. Only if you accept recommendations will we charge fo services.

Krisson Advertising Ser
34, Fouberts Place, London,

ADDING MACHINES



SERVI

Adding Machines and Calcula bought, sold, repaired and reb

Adding Machine Maintenance

WATERLOO HOUSE, 56 HOLBORN VIADUCT
LONDON, E.C.1 Telephone: CENTRAL

A CAREER I ADVERTISIN FOR YOU!

Achieve success in Advertising by s time study. Secure a post of infl with prospects for the future. The B College of Advertising course const a thorough training for ambitious and women who want to progress. to-day for FREE brochure.

THE BRITISH COLLEGE OF ADVERTISING,
Dept. 404a, 6, Carmelite Street, London, E

Write to the

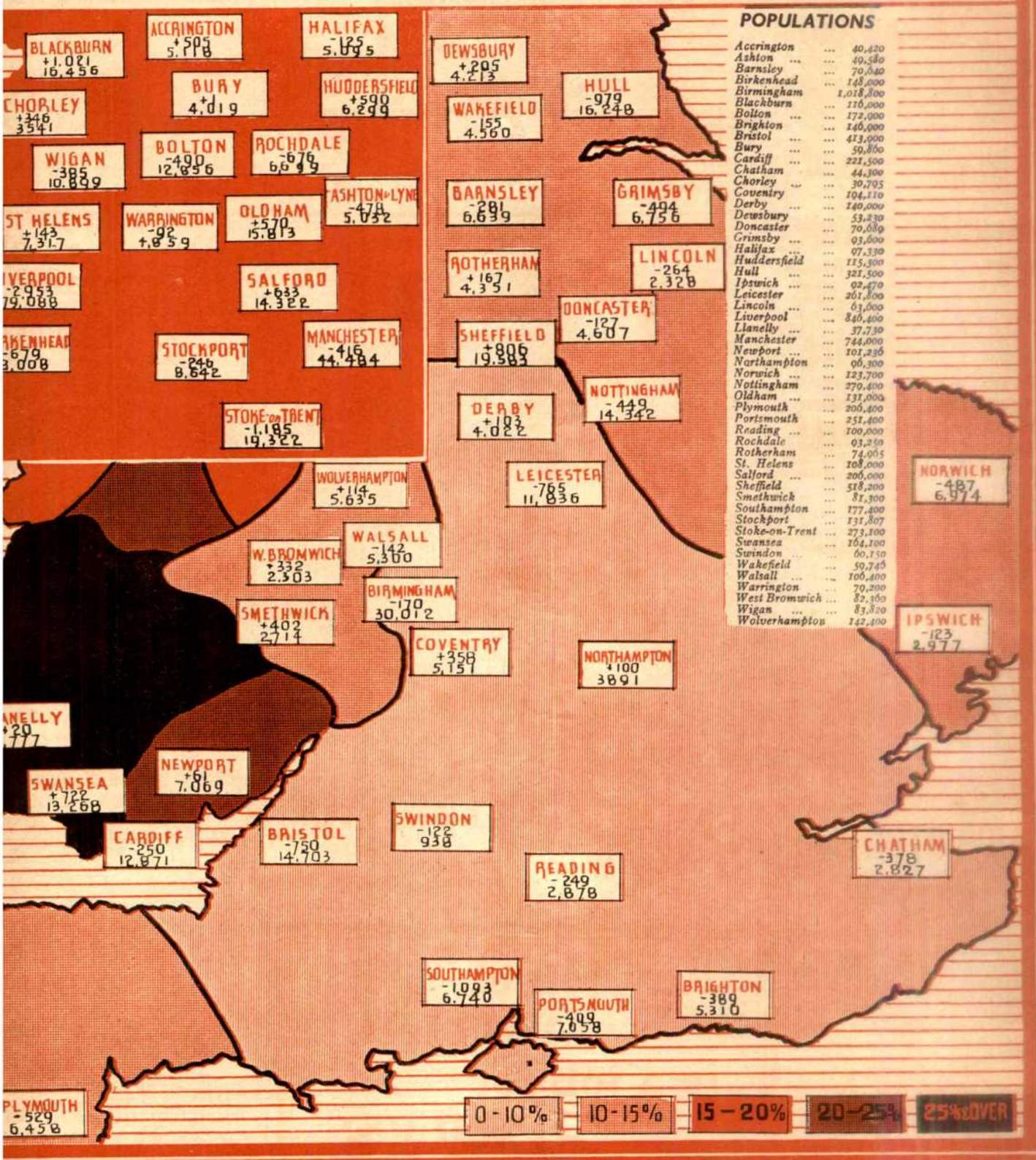
SPECIALISED ADVERTISEMENT MA "BUSINESS"

Whitefriars House, Tallis Street, Londo
for particulars of this Business Building Se

"BUSINESS" SURVEY OF HOME MARKETS

SOUTH and MIDLANDS

first figure gives change in number unemployed at April count as compared with March count. Total unemployed is shown in second figure



POPULATIONS

Accrington	40,420
Ashton	49,580
Barnsley	70,040
Birkenhead	148,000
Birmingham	1,018,800
Blackburn	116,000
Bolton	172,000
Brighton	146,000
Bristol	413,000
Bury	50,860
Cardiff	221,500
Chatham	44,300
Chorley	30,795
Coventry	194,110
Derby	140,000
Dewsbury	53,230
Doncaster	70,630
Grimsby	93,600
Halifax	97,330
Huddersfield	115,300
Hull	321,500
Ipswich	92,470
Leicester	261,800
Lincoln	63,000
Liverpool	840,400
Llanelly	37,730
Manchester	744,000
Newport	101,236
Northampton	96,300
Norwich	123,700
Nottingham	270,400
Oldham	131,000
Plymouth	206,400
Portsmouth	251,400
Reading	100,000
Rochdale	93,250
Rotherham	74,065
St. Helens	108,000
Salford	206,000
Sheffield	518,200
Smethwick	81,300
Southampton	177,400
Stockport	131,807
Stoke-on-Trent	273,100
Swansea	164,100
Swindon	60,150
Wakefield	59,746
Walsall	106,400
Warrington	79,200
West Bromwich	82,360
Wigan	83,820
Wolverhampton	142,400

NORTHCLIFFE NEWSPAPERS THE 10 TEST TOWNS

TEST YOUR ADVERTISING ECONOMICALLY

IN A *PROVED* TEST MEDIUM

NO. 4. LEICESTER EVENING MAIL • MARKETING BOOKLET FREE ON APPLICATION •

JOHN COOPE · Advertisement Director • NORTHCLIFFE NEWSPAPERS GROUP, LIMITED • Carmelite House, London, E.C.4. Phone: Central 6000

Here's *NEWS* of Active Home Markets

GREATER LONDON

Twenty-five Extra Portable electric 3-ton cranes being bought by Port of London Authority. Total cranes at docks now 1,400—Deptford Borough Council to spend £35,000 on new swimming baths—Linoleum Manufacturing Co., Staines, plan extensions to existing factory buildings—Over £18,000 is latest order taken by Wimpey & Co., Hammersmith, work being to pave Portsmouth Streets—G.E.C., Ltd., now built new works at Wembley for production of Coldair domestic and commercial refrigerators.

Record Winter Sales is report from big London stores on season just ended. Planning for new records coming summer—Indicative of trade conditions are metropolitan company reports. Instance: Gamage's profits up £5,000 on a year ago. Metropolitan Electric Supply Co. sold 690,800,000 units last year, increase of 93,200,000, or 15.6 per cent, on 1936. Pointer here to expanding London market for electrical appliances of all kinds for the home.

About £6,000,000 Is being spent by the London Passenger Transport Board on Underground train coaches. Over £1,500,000 worth of coaches will be delivered this year—Largest car-valeting plant, run on mass-production lines, opened at Edgware Road. Capable of dealing with one car every eight minutes—B.I.F. business good, London manufacturers claiming full order books.

SOUTH

Southampton's Inward Shipping totalled 1,201,365 gross tons in January, an increase of four per cent over January, 1937, more evidence of the centre's growing importance—British Power Boat Co., Ltd., Hythe, are to build over 30 vessels for Air Ministry—Southend have on hand plans for spending £400,000 on improvements to holiday facilities in the town—Southern Railway have placed contracts for steelwork for reconstruction of Portsmouth Harbour.

Big Electrification Scheme is being prepared for G.W.R. Will probably affect all Home Counties serviced by the company, encourage residential development in these areas, expand the market for consumer type goods—New £230,000 Exeter by-pass will enable motor traffic to go to Devon and Cornwall resorts without entering city, point which may adversely affect trade there this summer.

Over £100,000 To Be spent by Surrey County Council on road improvements in coming months. Most money will go in wages in Reigate area—Dennis Bros., Guildford, employing more men now than for some time past—Good spring weather has resulted in higher level of employment in southern counties farming, etc., making market wealthier than usual this time of year.

MIDLANDS

Sheffield Intends To spend about £4,000,000 on town development in next two years, much of which will go in wages—Work for 160 people will come from Leicester firm's plan to double size of existing factory—Over 90,000 houses have been built in Birmingham in past few years, most homes being wired for electricity and have gas laid on—£100,000 spent by L.M.S. on enlarging Coventry station—Iron output 1,038,900 tons, steel 1,300,600 tons is last year's figure for Lincolnshire. Foundries, mills working full pressure, wages high, market responsive to sales drives in all kinds of consumer goods.

Millions In Midlands area getting holidays with pay now. Latest are 20,000 steelworkers in Sheffield. Note this area in special selling schemes this summer—Lincolnshire County Council have decided to spend £210,850 to construct direct road between Grimsby and Immingham. Will develop trade in district—Cromalin, Ltd., Birmingham, have taken new works, trebling production, increasing local employment—Player's, Nottingham, are building new 33,000 sq. yd. warehouse.

By courtesy of Messrs. Gooch's Ltd.

Averys

Catalogue drawings for every trade

Averys Studio have for years specialised in advertising for the big stores. In every department, lettering, retouching, layouts, cover designs, besides furniture, we have specialists who know how to emphasise selling points. The studio is only one section of a large organisation equipped to deal with advertising production in its entirety. We have a large photographic department, while the process side produces perfect printing blocks **day and night** in line, half-tone and colour.

AVERYS SERVICES LTD

FURNITURE ILLUSTRATIONS IN LINE, HALF-TONE & COLOUR

37-41, LOWER MARSH, LONDON, S.E.1

'Phone: WATerloo 4027

Marketing TRENDS . . .

Current Facts that will help in Shaping your Sales Campaigns

By the MARKETING EDITOR

Every Sprat's A 'Whale' For Filling Order Books

TIME now to change sales policies to keep order books filled. That is, if you have not followed the policy lines expounded in BUSINESS during the past months. If you have, then your plans will be laid to meet the temporary stringency of markets.

No serious setback is foreshadowed, only enough lack of confidence to make selling noticeably more difficult. Which puts sales managers on mettle, demands they squeeze every possible sale from markets. No despising "sprat" sales now that "whale" orders are scarcer.

•

To-day's Pep Policy Is: Cut Price, Raise Sales

WAYS and means of keeping up sales figures have been quoted on this and other pages time and again. According to my investigations, most successful are: (*a*) finding new markets for old products; (*b*) developing side-line products into big sellers; (*c*) reducing or keeping at same level prices of standard lines; (*d*) re-packaging, adding some special new feature, re-casting advertising and sales appeal, etc.

Among most effective tactics now are price reductions, which justify views expressed here (BUSINESS, February, 1938, and earlier) that public resent recent price rises. Some firms, first to realize sales chances in this situation, are cutting prices. Willerby's, chain tailors, announce a 5 per cent cut *because raw wool prices are down*. Ford Motors have cut their 10's price from £150 to £145, raised 8's price from £118 to £120.

Two good examples, these. Notice the *reason* given public by the tailors?

•

New Marketing Menace— Or Salesman's Friend?

THERE are several Consumer Movements starting shortly in this country. Maybe this does not mean much to you now unless you are familiar with the Movements in the United States. But when established they will influence marketing policies and methods.

Briefly, Consumer Movements in the U.S.A. are organized and work this way: they are a club type of association with housewives as the majority of members; a council of competent persons examines and criticizes products on the consumer market, decides whether these goods are value for money and possess the qualities and features claimed; reports on these investigations are then circulated to the Movement members.

Buying *must* be influenced by these reports. Extent of influence, of course, depends on strength of the Movement. Prospects are that this will be enough to give marketing men here pause for thought.

•

New 'Shock Troops' To Help Manufacturers Get Displays

IMPORTANT merchandising service that gets retailer display tie-ups with national advertising campaigns, vital for efficient selling, is latest help for manufacturers. Launched by *Good Housekeeping*, the well-known magazine, this service offers new chances in marketing. Qualification for scheme is to spend £600 or more a year in the magazine.

Roughly, scheme works this way. All big population centres in country are investigated by *Good Housekeeping* merchandising staff, goodwill built up among retailers, detailed reports on each store or shop made out. Brochure setting out in dramatic yet detailed form the advertising and marketing policy of manufacturer concerned, is then prepared. Magazine's merchandising staff next call on dealers, sell them on value and prestige of advertising behind product (particularly its local influence) and show how and why displays in windows and on counters are valuable to dealer and manufacturer.

•

Gives Laboratory Touch To Rule of Thumb Work

THIS trend is important to nearly all manufacturers, certainly vital to those selling consumer-type goods. Difficulty now is to get effective tie-up with national advertising without high percentage of waste in display materials, service, time of staff, etc. Unless uneconomical costs are allowed, manufacturers often find "point of sale" publicity not more than 20 to 30 per cent efficient.

Wider than just the one publication is *Good Housekeeping's* outlook in this matter. Aim is to get full dress displays for all advertised goods. Emphasis, for instance, is not especially laid on advertising in the magazine, but on advertising in all forms—Press, periodical, poster, direct mail, etc.

Policy, too, is development of more scientific attitude by manufacturers towards display schemes. A weighty trend, this, worthy of your full attention.

'Wakes' Are 'Staggered'

June 11: Kirkham.

June 25 to July 2: Astley Bridge, Barrowford, Bolton, Farnworth, Nelson, Turton, Westhoughton.

July 2 to July 9: Atherton, Hindley Green, Horwich, Kirkham, Leigh, Radcliffe, Tyldesley.

July 9: Crompton, Freckleton, Lees, Failsworth, Hollinwood, Middleton, Middleton Junction, Oldham, Royton, Shaw, Springhead.

July 9 to July 16: Brierfield, Burnley, Darwen, Earby, Great Harwood, Hebden Bridge, Rishton, Todmorden.

July 16 to July 23: Barnoldswick, Blackburn, Chorley, Clitheroe, Colne, Heywood, Padiham.

July 23 to July 30: Accrington, Bacup, Bollington, Church, Clayton-le-Moors, Haslingden, Mossley, Newton Heath, Oswaldtwistle, Rawtenstall, Skipton, Stacksteads, Stalybridge, Waterfoot.

July 30 to August 6: Coppull, Longridge, Pendlebury, Swinton, Wigan.

August 6 to August 13: Bamber Bridge, Bury, Edenfield, Elland, Freckleton, Greetland, Halifax, Huddersfield, Leyland, Preston, Ramsbottom, Ripponden, Royton, Sowerby Bridge, Tottington, Woolfold.

August 13 to August 20: Bradford, Brighouse, Compstall, Denton, Marple, Reddish, Stockport.

August 20 to August 27: Ashton-u-Lyne, Broadbottom, Crompton, Droylsden, Dukinfield, Glossop, Hadfield, Hollingworth, Littleborough, Rochdale, Shaw.

August 27 to September 3: Failsworth, Hollinwood, Lees, Middleton, Middleton Junction, Oldham, Springhead.

September 3 to September 6: Hebden Bridge, Radcliffe, Kirkham, Todmorden.

September 3 to September 10: Gorton, Hyde, New Mills.

September 5 to September 7: Astley Bridge, Bolton, Brierfield, Burnley, Earby, Farnworth, Horwich, Turton, Westhoughton.

September 10 to September 14: Darwen.

September 10 to September 17: Facit, Shawforth, Whitworth.

September 12 to September 14: Atherton, Barrowford, Chorley, Hindley Green, Leigh, Nelson, Tyldesley.

September 12 and September 13: Colne, Great Harwood, Rishton.

September 17: Ashton-u-Lyne, Dukinfield.

September 17 to September 19: Bacup, Bury, Stalybridge, Stacksteads, Tottington, Woolfold.

September 17 to September 20: Barnoldswick, Haslingden, Mossley, Rawtenstall, Waterfoot.

September 19 and September 20: Blackburn, Clitheroe, Padiham.

September 24 to September 26: Edenfield, Heywood, Ramsbottom.

September 26: Coppull, Wigan.

September 26 and September 27: Accrington, Church, Clayton-le-Moors, Oswaldtwistle, Skipton.

October 1 to October 4: Bollington.

CLASSIFIED ADVERTISEMENTS

YOU CAN USE YOUR SPARE TIME TO START A MAIL ORDER BUSINESS

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6 Carmelite Street, London, E.C.4

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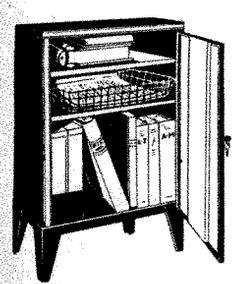
"A Large Selection of Ex-Government and OTHER STEEL AND WOOD OFFICE FURNITURE, INCLUDING FILING CABINETS, DESKS, CARD INDEX CABINETS, ETC. ALSO Plan Cabinets NEW AND SECONDHAND AT LOWEST PRICES.—WRITE FOR CATALOGUE, THE MISCELLANEOUS TRADING CO., LTD., 134/5 HIGH HOLBORN, W.C.1. HOLBORN 4894."



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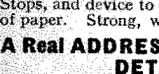
For Disposal. Eleven Kardex Cabinets with 12 drawers, complete with pockets for 8×5 records, also nine Roneodex Cabinets with 9 drawers, complete with card holders for 8×5 records, all in perfect new condition, will sell lot or any quantity; offers wanted.—Box 393, BUSINESS, Whitefriars House, Tallis St., E.C.4.

Addressograph Printing and Embossing Machines for repetition work, excellent order.—Chelmsford Model Laundry, Victoria Road, Chelmsford. Phone 2962.

Rubber Stamps and Marking Devices. Catalogue No. 20B, post free on request.—Richard E. Stromer, Ltd., 155a Upper Thames Street, London, E.C.4. Established 1875.

"A.A." STENCILATOR
"NIPPER" PRINTS 1,000 LETTERS FOR 1/-. 400 COPIES PER HOUR. Capacity 200 words, 5½ x 3½ in. **2/11.** Postage 4d.



NEW "MAJOR" OCTAVO. Capacity 300 words, 7 x 4 in., paper up to 9 x 6 in. Complete with Bed, Paper, Stops, and device to ensure printing level with edge of paper. Strong, well finished. **10/6,** post paid.

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B., ADAMS-AIDS, 197a WHITEACRE RD., ASHTON-U-LYNE

RATE—2/6 a line (average 7 words to a line). Minimum 3 lines costing 7/6; each additional line or part of a line 2/6. Box No. counts as one line and is to be paid for; replies are forwarded free of charge; 2½% discount for 3 insertions, 5% for 6, 10% for 12. Payment with order for single insertion. Display panels 24/- per single column inch. Discounts as above. Special rate for "Appointments Wanted"; 3 insertions for the price of 2.

Announcements for the next issue should reach BUSINESS, *Whitefriars House, Tallis Street, E.C.4 (Phone Central 9891), not later than May 21.*

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Young Executive who so far has been able to apply his talents outstandingly in various spheres of the commercial world, with particular success on the Sales-Promotion side, seeks an outlet for tireless enthusiasm and determination. A tactful but good disciplinarian, accustomed to training, handling and directing the activities of salesmen.—Box 392, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

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YOUNG ADVERTISING MAN (aged 21) 2 years with national advertiser, seeks similar post. Public School education, solid foundation in advertising, keen, plenty of ability, would do full justice to progressive post.—Box 395, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

I am prepared to act in a free lance capacity as Advertising Manager for a concern whose appropriation does not warrant the services of a full-time man.—Box 396, BUSINESS, Whitefriars House, Tallis St., E.C.4.

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(YOUNG)

sound ideas, wide knowledge of modern advertising and publicity methods and their application, is looking for a change. Moderate salary.—Box 385, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

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The Proprietor of British Patent No. 324516, dated January 21, 1929, relating to "Improvements in Duplicating Machines", is desirous of entering into arrangements by way of a licence or otherwise on reasonable terms for the purpose of exploiting the above patent and ensuring its practical working in Great Britain.—Inquiries to B. Singer, Steger Building, Chicago, Illinois.

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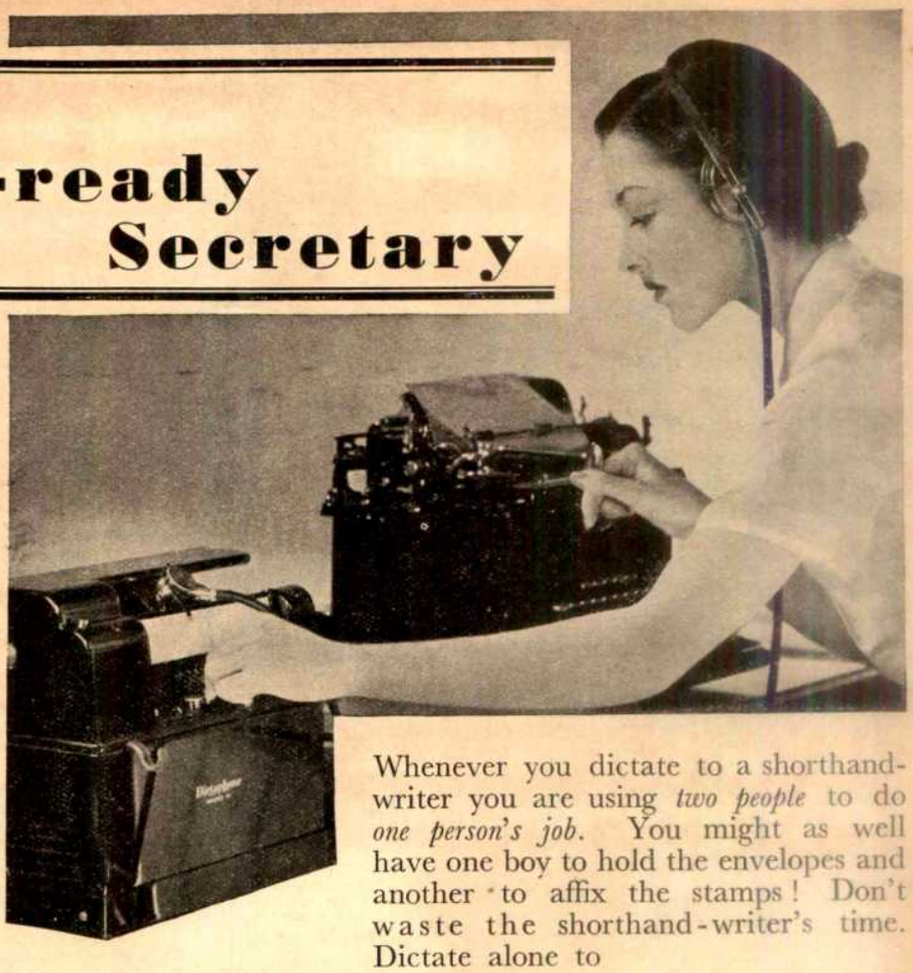

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In other words, the Radio Times is your *only* way of reaching the thousands of Little Lambtons in the British Isles. But that's only half the story. The Radio Times is also your *best* way of reaching the towns and cities. There, any other national medium *may* be read, but the Radio Times is *sure* to be. Its weekly circulation is 3,000,000. Its readers at least 12,000,000. Its huge coverage is evenly spread through city, country, class and creed. No blind spots. No loopholes for error. That's why the Radio Times goes into very big appropriations and very small. It's dead sure!

GUARANTEED AVERAGE WEEKLY NET SALES FOR 1938: 3,000,000

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RADIO TIMES

A National Campaign in Itself

VOL. LXVIII

BUSINESS

No. 6

THE COMPLETE JOURNAL OF
MANAGEMENT

Incorporating "The Magazine of Commerce", "Modern Business", "System", "Business Organization and Management"

In 1911 the then publishers of this Journal acquired from a London publishing house the "Magazine of Business", and thereafter incorporated the name of that paper in the sub-title above. In the intervening years other Journals were absorbed into BUSINESS *and the names of the periodicals in the sub-title were, therefore, from time to time changed. In October, 1936,* BUSINESS *was acquired by Business Publications, Ltd., but in making the necessary editorial changes of make-up the words "Journal of Commerce" were quite inadvertently used in the sub-title instead of "Magazine of Commerce".*

This error has now been rectified, for the "Journal of Commerce" is, of course, the well-known daily publication that has been issued for over 100 years with conspicuous success (since 1826) by Charles Birchall & Sons, Ltd., of Liverpool. We apologize to Charles Birchall & Sons, Ltd., for any inconvenience or confusion which may have been occasioned by our mistake.

JUNE, 1938

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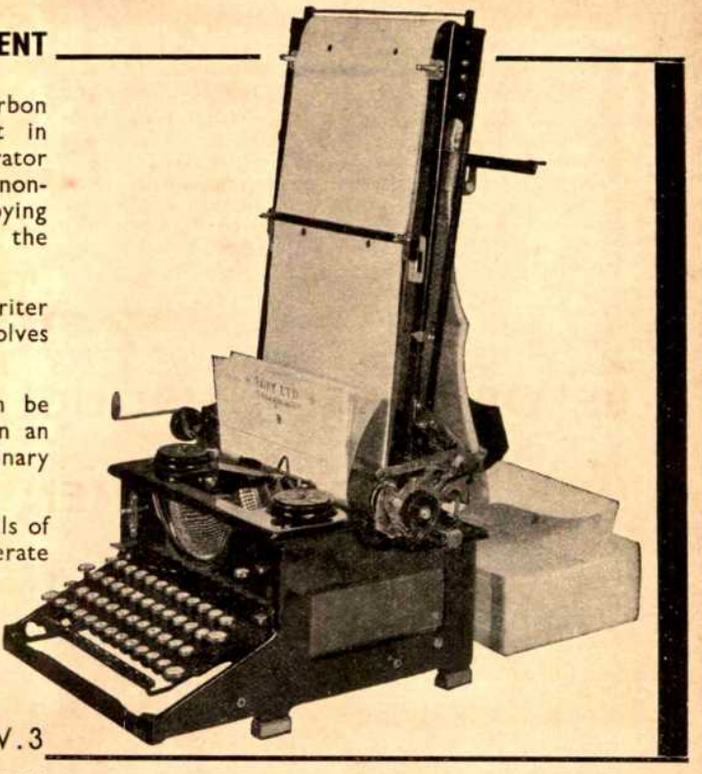

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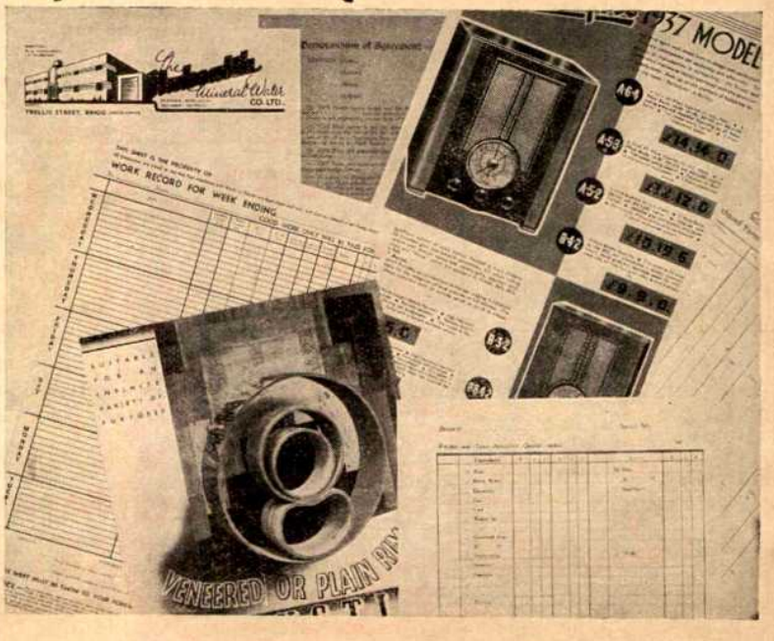

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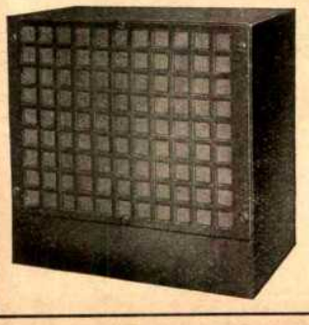

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This Is The BLIND SPOT In Management

That industry should be marshalled into two armed camps: Organized Employers and Unionized Labour, is a tragedy of this age, says the writer. Armistice between the two is *not* industrial peace. And in conflict neither side can ever win. Management's contribution to this situation is: *Failing to understand what the employee should get out of business*

By J. DAVID HOUSER

THE essential causes of the present condition in employer-employees relations and of most of the industrial unrest of the recent past are not malevolence and greed on the part of either the owners and administrators of business or the workers but dangerous and costly misconceptions and over-simplifications concerning the motives of men in their work.

The gates are open wide to a flood of unionization. The spectacle is no less than tragic, for it is tantamount to the marshalling into armed camps of the two industrial groups jointly responsible for the great social services, production and distribution.

Collective bargaining seems to be almost universally accepted as the last word in industrial panaceas. Thus business resigns itself to the hope that unregulated and intermittent warfare will be supplanted with a truce dictated by equality of armaments. Better possibilities in industrial relations are generally lost sight of.

Something Different From Collective Bargaining Wanted

But Armistice, in industrial strife or in war itself, is not to be confused with permanent peace; it does not mean victory for either side, nor welfare and security for the great non-combatant group, the vitally concerned general public.

Armistice is but an acknowledgment that victory is impossible, that at the moment neither side can win completely on its own terms. But while neither side wins, the losses are rarely equal. Through armistice the losing side gains only the opportunity to negotiate the degree of its surrender, and the partial winner gains a breathing-space to remobilize for more victorious combat in the future.

But business need not surrender; labour will not. Are there not better methods than the technique of conflict? In industrial relations, as in the affairs of nations, there can be no victory in conflict; all participants in strife must ultimately lose. There is a solution—not a combative but an integrative solution—in which all parties, management, labour and, most important, the general public, can win.

Management may accept the widespread unionization which seems imminent: collective bargaining has arrived not only in fact but in law. But business must not in its wishful thinking assume that in collective bargaining *alone* can be found the solution of the employee relations problems, nor console itself with the hope that herein is the way to new stability.

Management's feeling of relief can last only until the added costs of such stability, bought by higher wages and shorter hours, bring a vigorous attack from a new angle—that of the customer, now awakened and already growing angrily defensive against mounting prices.

One of the most certain elements in the present situation is this one of increased costs. Samuel Gompers once pithily characterized the union function. When he was asked: "What do the unions really want?" he tersely replied: "More!"

To-day the union movement, with its new and powerful impetus, shouts its intention to obtain a larger "share" of the financial returns of industry. But it will not be a mere share which it gets. Costs will be passed on, and the penalty of industrial friction will be paid eventually by the consumer in increasing amounts.

But the consumer must not be thought of as a mythical third party. All workers are consumers, and most consumers are employees. If widespread wage increases (the main objective of the union forces) are the only means employed by grudging management, the inevitably higher consumption costs cannot fail to give rise to more demands and more combat by labourer-consumers, protests and curtailed buying by the general public, a stalling of both production and distribution and general business instability.

Any unprejudiced student sees that the influence of the union movement has meant much in raising workers' financial returns and standards of living faster than would have been true with no unionization. It is also true that the union influence frequently eliminates obvious and overt abuses. Even so, it is equally plain that the primary objective of unionism is in *getting* and not *giving*, in more money, not more production, with its subsequent assurance of plenty for all; and that management alone will bear not only the brunt of public criticism over higher prices but the risk of industrial bankruptcy, economic depression, and public panic.

When Prices Go Up Management Is Responsible

Rightly or wrongly, the public and the public's representatives will hold management responsible for higher prices and their disastrous operation in this vicious circle.

But upon management there is still

another and greater responsibility: this is the *responsibility to be intelligent*. It is to be expected that workers, often underpaid, pliant to the dictates of union leaders who voice their needs in the confusing dilemma, would see only the possibility of gains through militant self-interest. There is far less justification, however, for management to accept unthinkingly, as it at present appears to do, the limited union analysis, strategy, and solution.

Money NOT Always The Be-all and End-all

If management accepts the union thesis that financial returns are all-important to workers it must face a growing onus of social resentment over increasing costs which will seriously threaten its own control of the business mechanism.

The one hope is that management may realize that the union thesis may be incorrect: that there are motives other than the purely financial ones to which workers will respond: that industry can be so organized and administered as to appeal to these motives, and that there can result an industrial functioning that will serve the legitimate needs of all parties—owners and managers, workers and consumers.

No solution, however expedient, can be accepted as worthy of intelligent management unless it is based upon the realization that the interests of all human factors in business and industry are interlocked, that ownership and management, workers and consumers have equally legitimate needs and equally vital interests at stake in the general industrial welfare. For management to accept collective bargaining alone as the complete solution would be to perpetuate the psychology of class and the psychology of conflict, in violation of its own best interests and the larger interests it must hold in trust. Therefore, in keeping with its responsibility to be intelligent, management cannot afford economically or ethically to "take into camp" the unionized employee groups alone on the basis of their apparent self-interests.

Not low wages alone but inadequate returns in conjunction with subtle and poignant affronts to human dignity are the true causes of resentment in industry. They will not be eliminated by unionization.

The source of these affronts, and therefore their prevention, is entirely within management control: ways in which organizations are set up, administered, and supervised.

By their external nature unions cannot effectively participate in these matters. However, if fundamental elements of discord were really eliminated, unions as they are currently organized would lose their principal function, which at present is to provide a method of punishing management for the continued debasement and frustration of workers, with such punishment taking its only possible form—that of frequently recurring demands for more money.

Management to-day is tacitly admitting that the most fundamental dogma of the radical schools is true.

Radical critics blame most of the ills in industry, or even in Society, on what they assert is the basic motive of industrial management, the "profit motive". Likewise, management seems to be controlled by a similar idea regarding employees' motives. In its industrial relations, particularly in connection with the present union movement, management has been dominated obviously by the conviction that *the only important desires of workers are those which money will satisfy*.

As usual, the radical interpretation is naïve and over-simplified. But when management, the responsible party, adopts this attitude towards employees as a working principle, it is echoing the over-simplification. By implication it is admitting its own interests to be merely financial and so is conceding the radical philosophy.

Thus business has been misled into a false generalization about the relative importance of what men want in and from their work. It has unthinkingly accepted a *demand* as an expression of a *need*, and, as a result, it is sacrificing its essential good to the thesis of militant unionism.

Nor is Promotion Invariably Sought

There are other misconceptions which loom large in business thinking and feeling and obscure the true outlines of the employer-employee relationship.

A second misconception almost as important as that regarding pay here deserves brief comment. It is the assumption, held by many well-meaning employers, that desire for promotion is universal. This is not true, as evidence will indicate. Furthermore, the belief that practically every employee is eager for promotion (involving, of course, more responsibility) is harmful, because it entirely obscures the need and opportunity for the enrichment of present jobs in significance.

The student of the human-relations problem in business discovers that words and phrases are often used, as children use them, for their euphony or easy repetition. He also finds them being used apparently to avoid the necessity of thinking. And at times he finds in them blinds that obscure real motives which it would not be creditable to admit.

Such a word is "responsibility".

'Responsibility' to some Executives is Mere Alibi

Executives who sustain a combative and defensive attitude in industrial relations frequently justify themselves by talking of the "responsibility" which management bears. There is reason to believe that this is often a sheer rationalization and that it cloaks a fear, conscious or unconscious, of loss of personal power: that it is an illustration of the ego drive, which is the principal motive in the total activities of many business executives. There is reason to believe that the ego motive, rather than the much-maligned profit motive, is the dominant force operating in business to-day and is a deeply rooted cause of much industrial strife and social unrest.

This drive for power is a matter of degree, as is every other human trait. Even business executives who are anything but autocratic sometimes exhibit the vague fear that workers want a power which will menace the proper discharge of vital management responsibilities.

But there is no need for fear on the part of *any* executive. The evidence is that, while workers want, and want keenly, many things that management could give them, the sharing of managerial duties, responsibilities, and worries is not one of them. Workers in recent research studies reveal no desire to usurp the roles of the management and ownership.

Workers do want, however, and have every right to expect, wise, fair, and efficient executive leadership in their struggle for satisfaction in their jobs as employees. After the repeated failure of the device of placing employees on boards of directors, often unwilling and protesting recipients of the honour, the fact should be clear that employees do not crave an authority which they are intelligent enough to realize they are entirely unfit to exercise. It should also be clear from the current negotiations that even unions do not want authority of this sort. When men in places of leadership rid themselves of an "organization" blind spot, they can better understand at what straw of hope offered by union leaders their employees are grasping.

A halo of near-sanctity is cast around the sub-executive and his authority over others. This deference is significantly indicated by the curious misconception of many principal executives with regard to "organization channels".

An administrative principle, long recognized as sound, is that balanced authority and responsibility, like that in a military order, should be delegated downward by

(*Continued on page 28*)

THE foregoing is extracted from a Chapter in J. D. Houser's new book: *What People Want from Business*. From the point of view of Management this book is one of the most constructive and penetrating surveys that we have seen. It goes far beyond mere organizational technique, it discusses that vital factor upon which the very structure of industry itself is built—the human employee.

Not *knowing* rather than not caring about employee motives is the indictment against Management, and this lack of knowledge is a root cause of every industrial dispute of modern times. On this condition there has been built the success of the Unions which depend for their power on that dangerous element — employee *resentment*. The remedy is a fresh viewpoint on the part of Management. Mr. Houser gives specific directions for reaching this new outlook.

The book is published by McGraw-Hill, price 15/-.

Policies That Built a New Business and . .

From an interview with

FRANK R. FORD

Managing Director, Frank R. Ford Ltd., Birmingham

Trebled It in 3 Years

ONE night in July, 1935, as s.s. *Majestic* sped from New York towards Southampton, a Birmingham business man sat in the quietude of a lounge revolving an idea. He decided to build, within his own plant, the product which he had marketed since June, 1934.

In that instant a new manufacturing business was born, and Frank R. Ford, dynamic head of Frank R. Ford, Ltd., began sketching plans for his factory.

Back in 1910 Ford became interested in business equipment, efficiency and practice. In 1919 he started his own business, selling office equipment and appliances. All his working life his mind had turned on the application of organization, equipment and ideas to give the executive greater control over his business.

During that night on the *Majestic* his constructive outlook on business shaped his first rough sketches along the right lines. Executive offices, showroom, machine shop and other parts of the factory were drafted out. By November—four months later—the Fordigraph factory at Sydenham Road, Sparkbrook, Birmingham 11, was not only built but occupied and starting production.

Policy on Which Administration is Founded

In the two and a half years that have since elapsed the firm has marketed its products all over the world, has built two new wings to the factory, taken over two other existing buildings, trebled its number of employees, made sales increases of some hundreds per cent, produced several new and improved models and now plans to go further still.

The product it was decided to manufacture was the Fordigraph, a rotary reproducing machine working on the hectographic principle and designed for the specialized work of reproducing internal documents, forms, charts, drawings, letters, leaflets, and scores of other short-run jobs. It will also do any kind of manifolding work that is done on a typewriter. Reproductions are made in one to five colours in a single impression.

Right at the start Mr. Ford decided that the machine must be built as a precision job. Outside he could not get materials and workmanship to meet the standards he laid down, so he built his own factory.

The firm's policy is to maintain this high standard of quality. That trips easily off the tongue. Many firms say the same thing: not all organize themselves to carry out such a policy. At Frank Ford's, organization is evident throughout the works, the staff and the service given.

Consider what this means: it starts with the layout of the factory, the provision of good working conditions, the use of modern systems and methods, the selection and training of skilled staff and the development of co-operation between every individual and every department.

To achieve this, driving force must come from the top. Mr. Ford is no desk-sitting executive. He believes that the managing director's job is equally that of co-ordinator and chief provider of ideas to be co-ordinated.

In his daily work Mr. Ford keeps his fingers on two pulses: the bank position of the company, and users' complaints. He says: "If accounts are paid regularly and the flow of cash is steady then sales developments will run along the lines planned for them, while the number and nature of complaints give a clear outline of what the company is up against and how successfully it is meeting difficulties."

To perceive difficulties is one thing: to rectify them speedily and satisfactorily is another. Mr. Ford has his own plan for doing it: a young executive, selected for qualities of tact, patience and persistency, specially trained as full-time "trouble mender".

This young man has no office: he spends his days up and down the offices and works. It is his job to trace every hitch, every misunderstanding, and to clear it up so that no feeling of dissatisfaction remains with any department or individual either inside or outside the organization.

What are the results of this man's work? Most important points are: (1) no "sore spots" in the firm; (2) executives and staff do not have to waste time clearing up mistakes; (3) by prompt attention to errors customers are kept pleased, therefore goodwill is built up; (4) develops greater sense of co-operation between departments and, naturally, has co-ordinating effect on the firm's work; (5) being under direct control of one man, all mistakes and difficulties are known daily by the management, a valuable pointer to where the organization is weak; (6) time, money and labour are saved, all-round efficiency increased.

The Works Committee Keeps Its Proper Function

Now look at another of the management's co-ordinating forces—the works committee. This meets for one hour every Monday and is composed of managing director, general sales manager, export sales manager, works manager, complaints manager, and the secretary of the company.

The plan is to provide an opportunity to discuss all matters which call for the co-ordinated decision of the heads of departments. It is *not* the place where department executives can bring up matters which can be settled in discussion between themselves. The test of any question raised: Is it (*a*) one which calls for collective consideration, or (*b*) one that two or more executives have previously talked over but cannot agree upon.

Discussions and decisions are not left as verbal arrangements. Minutes of

●

Modern Plant, Modern Methods, Constructive Selling. These are the fundamental points underlying Frank Ford's governing policy . . .

But in front of this comes his consideration of the human element. His personnel constitutes a team of whole-hearted enthusiasts. This he says is the real foundation of the firm's rapid success

the meetings are taken, and a copy is sent to each departmental head.

Another of Mr. Ford's successful policies is that of always being available to any of the staff who have complaints to make. Where a difficulty cannot be smoothed out by a departmental executive it is not allowed to fester. A meeting with the managing director is arranged, and the matter is gone into there and then. Difficulties tackled are not only business problems. All the staff know that if they have any genuine personal trouble the firm is always willing to help.

Ready assistance of this kind goes a long way in cementing employee goodwill. In the past two years it has had practical expression: the men, for example, are always willing to make special efforts on the firm's behalf. On more than one occasion, unbeknown to the chief executive, factory employees have worked all night to get orders completed. They have done it without being asked and without asking for additional pay. It was sincere expression of goodwill. Such spontaneous service was, nevertheless, suitably rewarded.

There is another good example which proves this point. While many firms have lost numbers of skilled men who have gone into armament work because of higher pay, this company has lost only one man on that score, and this workman very soon returned, asking for his job back. Working conditions with the company are such that they outweigh inducements of more £ s. d.

Factory Management that Secures High Work Standards

The first step in the success of this firm which has trebled its business in the past two years lies in the factory.

Mr. Ford holds that, no matter how brilliant a sales organization may be, there will be no progress if the work done on the production side is not up to the right standards. For that reason he forbids sacrifice of quality and precision of the work for the sake of output. Accuracy to .005 in. is the standard for all parts of the Fordigraph. To ensure that this is maintained accurate jigs are used, and each employee is responsible for their correct use in the making of his certain specified parts or operations; and each must test those parts or operations before they go for final inspection.

Yet the continuous method of assembling is used. Rate of output therefore can be maintained and checked according to schedule.

Control of the factory is under a works manager who is directly responsible to Mr. Ford. Section managers are responsible to the works manager.

An interesting point is that all factory employees are encouraged to become competent workers in as many of the processes as possible. When they become familiar with one operation they are switched, for experience, to another. This is one reason why the company have been able to maintain such a high level of output per person employed.

This versatility is not confined to actual production work. For instance, all the jigs, templates and special tools in use have been made in the factory. That, too, is a reason why, when much larger firms have not been able to keep up production to meet demand in the past two years, Ford's have been able to expand steadily.

Many valuable suggestions for improvements in the product and in methods of working have come from the workpeople and staff *via* the Suggestion Boxes which are prominently displayed.

Many firms have a suggestion box, but often the response is not satisfactory. The reason is that usually the right outlook does not exist among the staff. Ford's have fostered the co-operative, constructive outlook. They get suggestions, and valuable ones, too. They give, of course, suitable recognition in return.

Export Marketing the Chief Sales Development

Outstanding here is the development of export trade. There are few countries in the world in which the Fordigraph is not sold to-day. In April, 1934, special attention to the export business was given; a subsidiary company [Frank R. Ford (Foreign & Colonial), Ltd.] was formed.

In the meantime the home market was being developed. Two lines were carefully considered: the opening of sales branches, and the appointing of exclusive and sale dealerships. As progress was made selling through the company's own branches was restricted in order to cope with sales expansion through dealerships.

Reason for this was that operating branches to cover the whole country was considered uneconomical and not so desirable from all points of view as dealerships held by locally resident citizens. Control of separate offices plus the training of sales staff and service departments involved serious extra work, at a time when the company was absorbed in production and in developing sales overseas.

It was found that, by careful selection, dealers who could assume all responsibility for selling in the areas allocated to them were satisfactory. The company, of course, gave such dealers full support and co-operation in the way of sales aids and publicity.

Dealers are appointed by the managing director. It is part of his routine to tour as frequently as possible all parts of this country and a number of the markets overseas. He surveys a territory and decides the type of dealer necessary. It is not always, however, a case of appointing the biggest and best-known firm in an area. Often such concerns have not sufficient interest in a new product to work hard for its success. Sometimes the man with a one-room office or some very small business is the ideal dealer.

Three things Mr. Ford looks for in his dealers: (1) honesty; (2) hard work and ability; (3) knowledge of the locality.

A case in point: Mr. Ford had an application from a man in a district where the company had no sales representative. On calling at the address Mr. Ford found a one-roomed office in which was a man who obviously was finding business bad. He wanted the opportunity to sell Fordigraph as a final effort to get back on his feet. He was unable to purchase even one machine with which to demonstrate and could only hope to sell it himself, as he had no staff. He asked if the company would risk sending him a machine on credit, to be paid for the moment it was sold and cash received from the purchaser.

Mr. Ford considered that the man was honest, that he would be hard working, had ability, and that he certainly knew the locality, so he agreed.

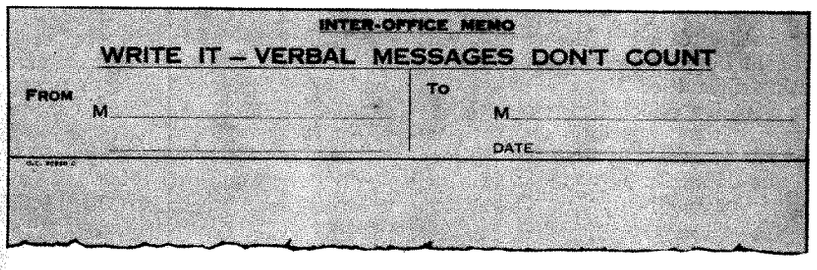
The machine was dispatched, and the man sold it the day it arrived; but he was not paid on the spot. The man therefore asked the company to trust him with another machine. This was done. Business went on like this for some time until payments started for machines sold. The man then paid the company as and when he received remittances from customers. He not only vindicated the firm's judgment: he showed the value of building business with *men* handling a good product rather than with a *product* alone.

To-day this man has established himself as a live dealer with showroom and offices, a service-after-sale and maintenance staff, a sales staff with suitable transport for covering the territory exclusively allocated to him.

Foreign Dealers Appointed by First-Hand Investigation

Empire and foreign dealerships Mr. Ford appoints mainly whilst on tour. He finds it pays to get first-hand knowledge of these overseas markets and to investigate a prospective agent on the spot. He can then enlighten his sales executive at head office as to exact conditions in the market in question, the probable extent of the market, the outstanding facts and points about the dealer and suggestions for ways and means of helping the dealer to develop. Such knowledge is essential to the sales department for smooth running in all their future dealings.

These contacts also give the managing director special bits of knowledge about best methods of packing and dispatching, dealing with customs and currency regulations, and so on. Although this is a routine detail job for the export sales department, Mr. Ford has often been able


INTER-OFFICE MEMO

WRITE IT – VERBAL MESSAGES DON'T COUNT

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Saves Errors—Fixes Responsibilities

In the well known firm that uses these inter-office memos, it is the definite ruling that verbal instructions are not to be given or accepted. All executives have dictating machines and separate filing systems for these 'house' memos, so every facility is provided for using the written instruction. The firm has head office in London, a factory 120 miles away and ten branch offices in the provinces. The ruling has decreased errors and misunderstandings and has enabled the management the better to fix responsibilities

to pass along advice and tips which can only be obtained on the spot but which smooth out many difficulties.

It is upon such points, for instance, that the present method of packing the machines for export has been developed. Practical tips plus experiments at the works have evolved what might be termed a "foolproof" packing-case: one that can stand up to all the rigours of long voyages. Indeed, tests made at the factory show that a machine in such a packing-case can be dropped a number of times from a great height without sustaining damage. When, therefore, dealers order machines they can be sure that every precaution has been taken to ensure their receiving the goods in perfect condition. This helps goodwill as well as sales.

Staff welfare in this firm is no mere gesture. Canteens, rest-rooms, social and sports clubs and so on are provided in that spirit of comradeship and co-operation which is a keystone in the firm's whole policy. Much of the success of these social activities of the staff comes from the genuine participation of the management in such affairs. It is not merely a case of *allowing* or even *encouraging* the staff to "get together": the executives take as real and active a part in the activities as they do in the business life of the company.

Rest pauses are worth a mention. A mid-morning and mid-afternoon break is given, with tea or other beverage provided from the firm's canteen.

Mr. Ford is another of those progressive executives who appreciates that *men* are human beings and are at all times more important than machines. His steadily expanding output, sales and profits, combined with the evident spirit of goodwill existing throughout his organization conclusively proves that this contention is true.

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Securing Effective and Profitable Control *in the Small-Sized Business*

It is often thought that modern and scientific methods of management can only be applied to large businesses engaged in mass production. It is often suggested also that the small business cannot afford the systems necessary to exact control and that skilled advice is too expensive for it. This article explains the fallacy underlying these ideas. The small business must in fact be more efficient relatively than the large concern if it is to survive. While there are real problems to be faced in advising the small business profitably, qualified consultants are aware of these problems and have devised methods of adapting their work to the special needs of small-scale undertakings

By L. URWICK, O.B.E., M.C., M.A.
Chairman: Urwick, Orr & Partners, Ltd.

THE previous article in this series dealt with some of the special problems of the "family" type of business.* Many family businesses are, however, of substantial size. There is another series of problems which arises with businesses of small size, say, with between 100 and 200 employees, whether they are private companies or owned by a family.

It is very generally thought that this type of business cannot profitably make use of modern and scientific methods of management. It is argued that such methods involve the introduction of expensive systems of control, only applicable in large concerns which may or may not be engaged in mass-production processes. Directors and managers of such small businesses often imagine that the cost of obtaining the best advice is beyond their means and that they must just get along as best they can, without making sure that their management is using the most modern technique.

The Small Business Must be Proportionately More Efficient

There is a considerable danger in this attitude of mind, a danger which is not only individual but national. Even to-day the number of really large-scale undertakings in Britain is only a very small fraction of the total number of business enterprises. Nearly a third of the total number of persons employed in trade and industry are employed in concerns of the 100-200 personnel size. The effectiveness of such small businesses is therefore a matter of vital national interest.

Looking at the question from the point of view of the businesses themselves, however, the need is equally serious. The large public company almost necessarily enjoys advantages which the small business cannot share.

It has greater capital resources, bigger reserves, and a widespread basis for credit. It can afford to sustain excess costs and ineffective operation to a greater degree and for a longer period than can its smaller competitor. In other words, the small business, if it is to survive in a competitive world, must be *proportionately more effective* than its larger rival in directions where it is possible. And the principal direction in which it can seek an advantage is in superior management, by improved co-ordination and closer control.

Balanced Performance of All Functions is Essential

Whatever the size of a business it must provide for all the functions necessary to effective trading. Theoretically, the one-man shop carries out, on a smaller scale, every activity entrusted to the great managerial staffs of Selfridges or Woolworths.

The one-man shop must buy, keep stocks and records, display its goods, study prices and determine margins, service customers and maintain accounts. It carries out all these functions, not by distributing them to different specialists but by a wise distribution of the time of the single individual who is the shareholders, directors, managers and staff all rolled into one. If in any one of these functions he falls seriously behind the standards set by his larger competitor, his business will inevitably decline. Since it is clear that his manifold duties will not leave him time to be a specialist in them all, he is the more in need of skilled advice and assistance if he is to maintain a high standard of performance.

Certain Activities Receive Too Little Attention

While the one-man business is admittedly an extreme case, the same principle applies to the small manufacturing or distributive undertaking with a comparatively limited number of employees. That is to say, the small number of persons in the higher management which such an undertaking can afford to maintain must necessarily distribute their time over a variety of functions. One man will be managing director, also looking after production, while a colleague occupies himself with sales and supervises a cashier or accountant who represents the financial control.

There are, of course, an indefinite number of permutations and combinations of this kind of arrangement. But, whatever the actual organization, these individuals are not able to devote the

**Maintaining the Family Type Business in First Class Fighting Shape:* BUSINESS *for May, 1938.*

whole of their time to a single function.

For this reason there is often a tendency for certain functions to be overlooked. Individuals always tend to be more interested in one aspect of their work than in another. And probably one of the gravest difficulties which faces the small business is that some essential function, say, for instance, purchasing, does not receive the detailed and enthusiastic attention necessary for its proper performance.

Why Specialized Advice is Profitable

Another important point: The small business cannot give the time required for whatever investigation may be needed as the essential preliminary to the establishment of modern methods of control. A department consisting of six people carrying out between them, say, twelve processes, calls for a proportionately *greater* amount of study if these twelve processes are to be put on a correct basis, than a department of six hundred people engaged on the same twelve processes.

The small business sometimes feels also that if it did carry out the detailed inquiry necessary with its own staff it might not prove profitable.

This difficulty is a real one, but a great deal more can be done than is commonly supposed. The cost of investigation should never be regarded as a lump sum outgoing. It must always be related to the corresponding yield expressed in terms of *reduction of expense*. In other words, a service is only "dear" if the value-for-money equation is unsatisfactory.

Some modern consultants have appreciated and studied this special problem of helping the small business and have perfected methods by which, through the correct distribution and employment of consulting time, effective reorganization work can be carried through for quite small businesses within a figure that will show an ample reward.

High-Grade Management IS Available To Small Firms

The point which the small business is most apt to overlook is the possibility of cutting its coat according to its cloth. While it is clearly impossible for the small business to employ high-grade outside advice for long periods at a high cost, it is important that it should have advice of the highest quality in dealing with certain questions of policy or of reorganization, otherwise it is not likely to become a big business. It cannot possess within its own staff the same skilled leadership in all functions which is enjoyed by larger concerns. But because it cannot employ, say, £2,000 per annum management all the time, that does not mean that it must employ low-calibre management all the time. It can obtain high-grade assistance over shorter periods and be prepared to use it with less expenditure of time devoted to argument and persuasion.

In relation to this last point it sometimes enjoys a definite advantage over the larger undertaking. Control is probably in the hands of one to three people who can readily meet at short intervals to discuss problems and make decisions. The time and effort required to inform staff of new plans and to get them working are proportionately less. Personal leadership has greater opportunity to make itself felt.

Why Planning Must Be More Carefully Done

The fact that the smaller business is working either to individual orders, or to much shorter runs for stock, than the larger concern is an important consideration. This does not mean that it can afford to ignore modern methods of management. Quite the contrary. It often requires a higher quality of management and superior planning to ensure that its labour and equipment are maintained in balanced employment.

For all these reasons directors of small businesses will find it profitable to examine their management problems and the possibilities of using skilled outside assistance. Experience has already shown what can be done in this respect with wise guidance.

MANAGEMENT TRENDS

By The Editors

Build-up and Pay-up is Government 'Stick-up'

A.R.P. is still front-page news in the daily papers up and down the land, not because protection for our families is reaching exemplary standard but for the opposite reason.

A.R.P. in business is in even worse case. Reason here is not, as is said of the wider rational plan, mere lack of a comprehensive programme but because of direct obstruction *by the Government*.

Said a leading A.R.P. engineer to us last month: "This refusal by the Government to allow expenditure on the protection of factory and office buildings to be admitted as a business expense for income-tax purposes is seriously holding up the whole idea. Business men are refusing to be 'penalized' for co-operating in a plan against national emergency. . . ."

As we point out in the A.R.P. article (page 34), a firm that makes, say, £1,000 gross profit and spends £250 on building air-raid shelters still has to pay tax on the full £1,000. The work is counted as an "improvement". Which, say business men, is iniquitous. That is why many firms are doing nothing about this vital work. And this, in turn, should force the government to allow money spent on A.R.P. measures to be deducted from taxable profits.

●

Shysters Only Will Pay New H.-P. 'Bill'

IMMINENT is Ellen Wilkinson's Hire Purchase Bill. Specifically it will not affect manufacturers, distributors, and purchasers who do business in the normal ethical way. It aims only to curb the shysters. In doing this, however, the Bill will have effects—beneficial effects—on legitimate h.-p. as well.

In the first place, by squashing sharp practice, it will invest the whole system of hire-purchase trading with a fuller degree of confidence. It will standardize the h.-p. principle on a better level altogether, and this of course is bound in the long run to improve trading relations—and volume.

In the second place, a factor will come into force that will make the bona fide trader's position more secure. It is this: The tremendous publicity given to the Bill and its objects has initiated the Courts into the real significance of h.-p. trading. While, therefore, the authorities will have power to banish abuses, they will also be in a position the better to safeguard the claims of legitimate traders.

Whereas, up till now, subconsciously moved by the practices of a few sharks who gave the business a bad name, the authorities have been preponderantly in favour of "the poor customer" in almost all cases involving hire-purchase transactions that have come before their Courts. They will now, however, in the light of the cleared situation, be able to deal with the facts on their merits and to ensure that the legitimate h.-p. trader is fully protected.

●

Industry Needs Self-Helpers Not Cry-babies

LORD PERRY, of Ford Motors, Ltd., warned his shareholders at last month's meeting of the danger to the British market of this influx of German cars imported at *"less than the cost of production"*.

Personally, we do not think the Germans are selling at less than the cost of *German* production. Indeed, we are sure they are not.

The fact remains, of course, that these German cars, when they reach the British market, are very readily bought by British motorists. Instead, therefore, of at once invoking Government aid to combat this situation, as Lord Perry and other home car manufacturers are doing, why not seek for a *business* reason why British motorists are so readily buying this foreign product in preference to a home-made marque.

We ourselves have made some close inquiries among representative car distributors. And what do we find? We

(*Continued on page* 30)

Expanding

A Side-line Into a Best Seller to Boost Turnover and Profit Volume

By C. E. DAY

From an Interview with a well known Manufacturing Firm

BEHIND an electric clock special test publicity campaign which is being conducted in South Yorkshire is that sound management policy: building up the sales of subsidiary lines. It is a policy of building for the future, of giving the business as a whole a sounder economic basis upon which development and progress can be continuous.

Area Test Campaign To Feel the Way

There is not, in this sense, any outstanding new policy or method in the scheme which the company concerned has planned. The interesting points are that the directors *have taken the long view* and that they are using a *test campaign* as the first step towards large-scale advertising and marketing. This is quite different from the all too normal methods of (*a*) concentrating energy in building up sales of only the main products of the business, (*b*) developing side-lines haphazardly, (*c*) turning to subsidiary products as a last-minute effort to maintain sales volume and profits, and (*d*) plunging into a national marketing campaign on side-lines without adequate knowledge of market possibilities or a reliable understanding of all the problems to be faced.

Before the directors of the firm decided on the South Yorkshire campaign they were armed with many vital facts about the national market for electric clocks. They had, too, actual marketing experience or the product to go upon, gathered from the past few years of selling this side-line.

Now the company manufactures many side-lines and the question naturally arises: Why choose to develop synchronous clocks? The answer is not hard to find. An expanding market awaits development.

Although the potential market is large, the problem of selling to it is difficult. The clocks, for instance, are not cheap. People do not buy clocks as they do groceries. Many people are rather sceptical or nervous about electrically operated mechanism. There is, too, much competition in the market.

An interesting point about competition was brought out before the test campaign started. It was found that the trade Press advertising got response but retailers said it should be supported by advertising to the public. They pointed out that the public asked for certain electric clocks by name and had to be introduced to the firm's clocks, a name with which they were not familiar. This was one of the factors which influenced the company to get on with a general advertising scheme.

Three questions next arose: (1) what sort of scheme to be used; (2) where was it to operate; (3) when was it to start? It was agreed that a regional test should be the first step, the best choice for several reasons. First, it was held unwise to plunge into a scheme on a national scale without sampling the market response, getting a cost per sale standard and testing the methods used. There was the additional point that some parts of the country are not yet "time-controlled". Secondly, a regional campaign could be kept under head office control easily, any mistakes made could be corrected quickly and the total costs could be set at a reasonable level.

The choice of area was, in a measure, arbitrary but certain factors did have influence. The company, for example, already had good distribution for its products in Yorkshire. The local newspapers, *Yorkshire Evening Post* (Leeds) and *Bradford Telegraph and Argus* covered the district well with a combined circulation of over 260,000 among the 1,500,000 or more population with 500,000 homes on time-controlled A.C. No rival evening papers from London were sold in the area and sales of other evening papers from outside districts were insignificant. Another point considered was the prosperity of the area which ranked high among provincial centres. Furthermore, it is a compact area which makes for ease of working a special scheme of this type.

Period of Topical Appeal Governed the Start

The choice of time for starting the campaign—from March until the end of May—was governed by the sales appeal of the products.

Experience has shown that clocks are a favourite wedding gift and that spring—particularly the Easter period—is a popular time for weddings. By getting the campaign under way in March the company cashed in for spring weddings and were prepared for the summer wedding season. This is a small but quite important point.

A month before advertising was booked to open three extra travellers were sent to the area to help the regular representative there. These men worked from a display shop opened in Leeds. Here the complete range of the clocks was on show for the benefit of the trade. The salesmen brought dealers, wholesalers and others to look over the stock. The shop served as a field headquarters for the attack on the district.

In this pre-campaign period salesmen were backed up by the mailing of 2,000 broadsheets to a selected list of wholesalers, supply authorities, contractors, retailers, watchmakers and jewellers. This broadsheet told the story of the campaign—the amount of advertising to be used, the window displays available, the catalogues, showcards, folders, leaflets and so on provided. It also pointed the extent of the local markets and the specific opportunity every dealer had to make sales.

If You Use The *Miniature Camera* in Business or Otherwise . . .

WITH the miniature camera becoming so increasingly valuable an instrument in the publicity and technical departments of manufacturing firms Bernard Alfieri's new book, *The Miniature Manual*, price 6s., should be studied by all who are active in this kind of photographic work.

Alfieri's aim has been to produce a book that bridges the gap between the quite elementary handbook and the highly technical treatise. He has succeeded very well indeed. Without getting into the sphere of the professional the author has packed his work with practical information about modern technique which is exceedingly valuable to the serious user of the miniature camera.

His chapter on lenses, for example, while not extending to the depths of optical science, picks out just those vital facts which the serious photographer must know if he is to use effectively the wide range of lenses available in this field.

On shutters, Alfieri gives but eight pages. But in this space are facts that will banish, even for the advanced worker, many of those misunderstandings that have marred thousands of shots.

Chapters on negative emulsions and exposures, too, contain practical data for the *user* and not theoretical discussions for the scientist. In fact, all the information in this book: colour filters, lighting, table-top shots, processing, and so on, are the results of the personal work and research of Alfieri, who is himself an exponent of the miniature camera.

This useful book is published by *The Miniature Camera World*, 300-304 Gray's Inn Road, London, W.C.1.

Display material was provided free, and included showcards, 2,500 showroom catalogues of 84 pages, 50,000 quarto and 50,000 envelope-size throwaway booklets. Dealers who placed orders for specified quantities of clocks also received free a *planned* display consisting of a 33-inch centre panel and three 9-inch display boxes for arrangement around the centre-piece. This display piece, made by a well-known firm of window display designers, was planned so that it could be used as a complete or part display, to fit any type of window.

The Press advertising opened on 24th March. Space sizes were usually 8 inches across 2 columns but some 6 across 2 and 10 across 2 were used. The headline on each occasion played up some specific advantage of electric clocks. The advertisements appeared, once a week, in the *Yorkshire Evening Post* and *Bradford Telegraph and Argus*. The only other paper used was the *Yorkshire Observer*, to link up with an appropriate editorial feature.

The Scheme is Getting Good Dealer Co-operation

Dealers whose orders reached a specified quantity got a free tie-up with the advertisements. Their names and addresses, as appointed dealers, appeared at the foot of the advertisements. Each week the list was changed to give another batch of retailers their share of free publicity.

Results of the campaign are not yet available but present indications are that it will be a success. Dealers throughout the area have taken reasonable stocks and are making good sales. Public interest has been considerable. For instance, many retailers are handing out between 300 and 400 envelope-size throwaway booklets each week or ten days. (These booklets are particularly popular because, when overprinted with the dealer's name and address, they look as though they are a special catalogue issued by the dealer himself.)

From a policy viewpoint it is interesting to see how thoroughly the directors of the company are doing their job. For example, although the motor in a synchronous clock is simple and robust it is possible that it may be damaged or may go wrong. Local watchmakers and repairers are still a little uncertain if they can handle electric clock repairs. To overcome this difficulty the clocks are fitted with easily replaced motors. The owner of the clock can do the replacing. It can then be taken to the local dealer or sent direct to headquarters. In any case a spare motor can be supplied at once.

In the attempt to capture a national market the company has paid attention to "styling" the clocks. For cases, that attractive material catalin is being used in brilliant red, cream, rose quartz, black, apple green and tortoiseshell. Designers are being employed to produce new designs of cases. All the usual case designs are, of course, also made and the ordinary materials—wood, glass, metal, etc.—are used.

One very good feature of the present campaign is the material and photographs prepared for editorial use. Understanding the editorial aversion to "puffs," the advertising manager to the firm dug out a wealth of interesting facts and figures about the British clock industry. Not just blurb stuff but material that had *national* significance. It was not presented as a pretentious article but as a series of straightforward paragraphs giving the facts. Any sub-editor skimming them through could pick out a story from each paragraph.

Supporting this written material were photographs showing home interiors. The electric clock in any picture was just a part of the setting. It was in its correct place, natural and, therefore, all the more interesting from the public's—and the editor's—point of view.

This intelligent approach to the supporting free publicity problem met with success. Editors gave space to the clock story.

In a few weeks' time, when results can be properly assessed, the firm will be able to decide on future marketing policy. The directors will not necessarily launch out immediately on a national scale. It may be they will try the present scheme in another area. They may even decide to cover the country section by section with the existing scheme. Whatever their choice, results of the present regional test will be the deciding factor on the plans to be followed in building up this subsidiary line into a national best seller.

Add a Fresh Touch to Your *Sales-Aid Matter*

PERFECT technique in the reproduction of pencil drawings has put into the hands of the publicity man an extra medium which gives him a vastly increased versatility in the expression of his ideas.

From the inset enclosed in this issue some idea can be gathered of the remarkable realism with which pencil work can be reproduced. Many firms are to-day having booklets and small catalogues produced entirely from pencil drawings by artists. But among manufacturing concerns the pencil medium is more frequently being used to supplement and enhance the ordinary letterpress. The reason is that most products need to be shown in their particular technical detail. Photography is therefore the logical medium. But background or atmosphere sketches in pencil, added for decorative effect, have a novelty and prestige that exercise a very powerful appeal.

Whether pencil reproductions are used alone, or as a supplement to letterpress it is important to know that, costed as illustrations, their price is about fifty per cent less than that of the deep-etched halftones ordinarily required. Also it should be stressed that the "Penciltone" method used by the Swan Press, Ltd., of reproducing certain types of pencil sketch without a screen ensures such faithful reproduction that no one but an expert can distinguish between the artist's original sketches and the printed copies.

The same method of reproducing pencil has been perfected by the Swan Press, Ltd., for faithfully reproducing handwriting. This again gives the publicity man scope for novelty and originality. On sales letters, folders and catalogues he can insert personal notes in facsimile handwriting that tremendously increase the intimacy of appeal to his prospects.

The effectiveness of such personal notes has to be seen to be appreciated. No reproduction here by letterpress can possibly convey their realism.

Entire letters can of course be reproduced in "handwriting" and at a cost that is barely above that of "duplicated" typewritten letters. These, for the ordinary business, are not of course widely adaptable, but any publicity man can visualize their tremendous appropriateness for particular jobs. And here again we suggest to readers that they look at some actual specimens.

Swan Press, in fact, will be glad to send you a range of specimens: Ways of using pencil sketches and handwritten matter, from which you will be able to visualize their many effective uses.

Accounting Machine Exhibition This Month

NEARLY a hundred different machines and modern systems for every kind of accounting and statistical work will comprise the exhibition to be opened by Burroughs Adding Machine, Ltd., in Chesham House, Regent Street, W.1, 13th to 17th June.

Business executives are invited to see the demonstrations that will be given in the latest methods for invoicing, adding, book-keeping, calculating, etc.; all-purpose typewriter accounting machines; electric carriage typewriters and fanfold machines; cash registering machines, etc.

The exhibition will be open from 2 p.m. to 7 p.m. each day; admission will be by invitation card or by presentation of business card.

New Motors for Old

EXECUTIVES responsible for controlling costs of production and factory maintenance will be interested in an important offer now being made by Brook Motors, Ltd.

To bring up to date your electrical power units the company offers substantial cash discounts (up to 50 per cent) on new motors in exchange for your old ones. Brook Motors have, in fact, equipped a special department in their organization for the "scientific scrapping of users' obsolete plant".

This exchange offer is particularly appropriate just now because, not only do the new motors embody important mechanical improvements that give increased efficiency in working, but they also provide the

YOUR BUSINESS *today* IS NOT THE SAME AS IT WAS *yesterday!*

● *Sales of a fast-selling line may have dropped. Did you know?*

● *Complaints may have been received from your best customer. Did you know?*

● *Production in the Works may have been held up. Did you know?*

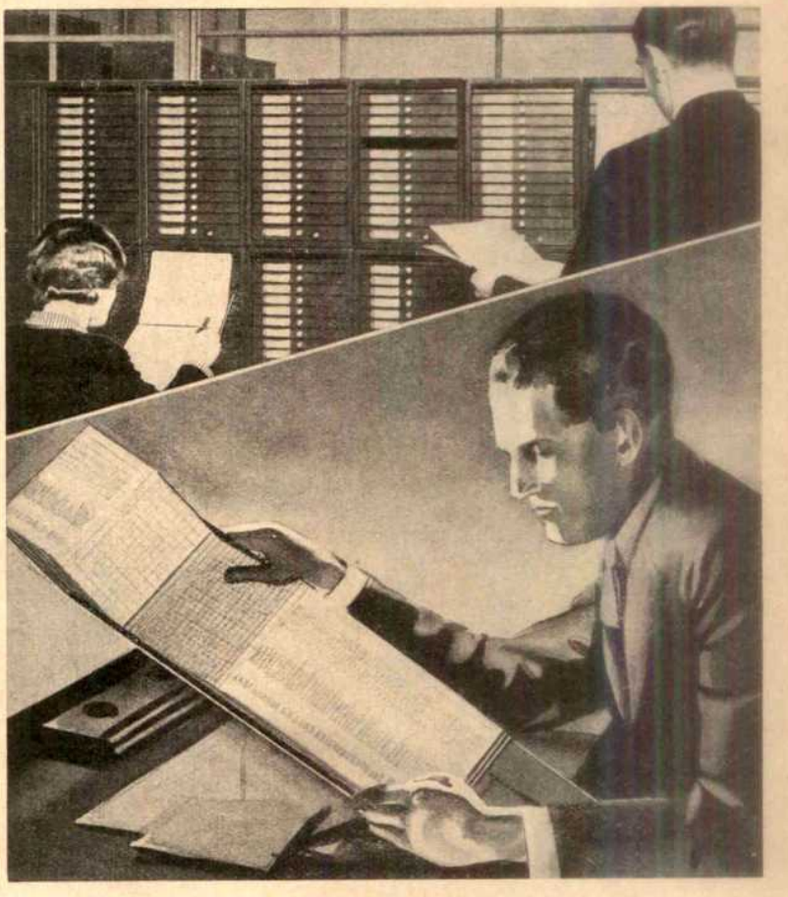
● *Important territory may have been neglected for weeks. Did you know?*

See "at a glance" the day-by-day changing facts!

LET VISIBLE RECORDS SIGNAL THE TENDENCIES IN PURCHASING — SALES — OUTPUT AND PRODUCTION!

SHANNON Visible Records are widely used by progressive firms because they speed up entry making—eliminate fact searching—supply automatically at-a-glance related facts. They warn by means of signalling the necessity of decision and obtain action by clerks and executives at the right moment. In every department of your business Shannon Visible Records save time and expense and give continuous automatic control to all executives.

Read about Shannon Visible Records and how much they can mean to your business. Send Business Card for FREE copy of the Booklet offered below.



Shannon LIMITED

Visible Records

THE SHANNON LIMITED

IMPERIAL HOUSE

15, 17 & 19 KINGSWAY, LONDON, W.C.2

AN INDISPENSABLE TEXT-BOOK for the PROFIT-EARNING OFFICE

"Lift the Lid off Your Business" is a 24-page illustrated booklet, describing the endless possibilities of Shannon Visible Records in office and works. It will be sent Free to executives on receipt of business card or letter-heading.

Write for this FREE BOOK

Birmingham Bristol Manchester Liverpool Glasgow (Agents) Newcastle-on-Tyne

4746

factors of protection demanded by the new Factory Act which becomes law next month.

The actual cash allowances offered for your old motors (they can be of any make) depend on their age—irrespective of condition. For assessment Brook have classified the ages into four groups: 5, 10, 15 and 20 years. The maximum allowance is 50 per cent.

Replacement motors can be supplied with pulley, slide rails, and starter, if required, and there need be no stoppage of work. Offers are, however, conditional upon the existing motor being returned to the Brook works carriage paid within seven days of receipt of the new machine.

Further details and exchange application form can be had from the company at Empress Works, St. Thomas's Road, Huddersfield, Yorks.

IDEAS that have Built Sales . . .

A.R.P. Tie-Up Boosts Many Lines

CASHING in on current topics, always considered good marketing policy, has again been successful in getting sales, this time on Air Raid Precautions appeal. Many firms have made a special drive to sell goods that have specific uses in A.R.P. work.

A good instance is that of Boots, the chain-store chemists. The company has (*a*) made special window displays on "Things To Have In Your Refuge Room"; (*b*) produced leaflets and folders setting out a specific list of goods that would be needed in such a room, together with a folder on "Refuge Room Hints"; (*c*) backed the effort with advertising.

The list of goods needed is extensive. As a start 20 items are mentioned, followed by a list of articles which most people "probably possess already". After this another dozen or so articles which should be collected for use in an air raid shelter are stated, and finally, under headings of "First Aid Equipment" (Medicinal and Accessories), "Household and Toilet", "Sweets and Beverages", and "Amusements", some dozens of other goods needed are named.

The instructions leaflets contain sound, practical advice about making a refuge room safe. Typical defects are dealt with, alongside each being given the remedial measures necessary. General instructions on the choice of room and a list of hints are also included.

A considerable amount of interest has been stirred up by this sales scheme. Although full results are not available those to date show that it is a success.

As interest in A.R.P. work is bound to grow rapidly in the coming months many manufacturers could cash in with special sales drives on a national scale.

●

Dealers, too, Have Good Ideas

THE successful sales policies and schemes of an electric washer manufacturing company in the Midlands are framed mostly on the experiences of the firm's best dealers. This is one of the main reasons why the company's sales have continued steadily to increase in lean as well as in prosperous periods.

A recent example of the policy at work concerns one of the firm's Yorkshire dealers who, in a year, sold over 400 washers. The organization, business methods, sales ideas, schemes and practices of this dealer were investigated, analysed, and, where workable, incorporated into the company's own policies and methods.

An instance is the fact that the dealer concerned is a first-class electrician. This has had a lot to do with the man's success. Not only does he understand thoroughly how washers function and where trouble, if any, is likely to occur, but he knows the normal working conditions that face washers in his locality. Thus any washer installed has been put in *intelligently*, the purchaser instructed on how to operate it in view of local conditions, and so on.

As a result of this the company are being more insistent that appointed dealers shall have a thorough understanding technically of the electrical and mechanical sides of the business and a special knowledge of local conditions. Ignorance, often on the part of the dealer as well as on that of the buyer, has been one of the biggest sales obstacles to washers.

House-to-house canvassing, followed up by salesmen and demonstrators, formed the successful dealer's method of approach and sales. This is being used by the company as a first-class example to other dealers.

This policy of using successful retailers to tell others how to sell more is a growing practice with up-to-date manufacturers. But it is still an idea which could be used more extensively, lined with the policy of watching dealers to get successful new selling schemes and ideas.

In Planning Editorial Publicity

It is misleading to Compare Staff Journalists' Salaries with The Specialized Agency's 'Fee'

COMPARISON of the cost of a whole-time journalist, or even two, for editorial publicity work with that of employing a specialized agency for the same purpose is a point often keenly discussed by executives.

Business organizations without practical experience of both methods may find the idea of a journalist on the staff the more attractive. It seems the simplest method, and at first thought may appear to be the cheapest. They are inclined to compare his salary with the total "fee" paid to a specialized agency.

What is not realized is that the expense of the staff man only *begins* with his salary. In fact, if he is to produce and distribute work on a really worth-while scale the additional expenses which he can incur have, virtually, no limit.

But however much these extra expenses may be restricted (with consequent loss of the amount of publicity which counts) there are certain operating costs which cannot be avoided and which remain a standing liability even on the lowest basis of operation.

The agency provides the part-time services of many journalists and allied workers, and their so-called "fee" includes a host of items which are sheer disbursements and overheads. In reality, therefore, this "fee" should be looked on as an appropriation *covering every cost involved*. Only part of it is in any sense a fee.

Here are some actual figures of costs that were incurred in a year by two undertakings who employed their own editorial publicity departments: (*a*) provided a normal inside establishment with a senior and junior journalist and an office staff of two in two rooms, and (*b*) provided the cheapest form of all—one journalist and one typist in one room.

Essential Items	*Scale (a)*	*Scale (b)*
	£	£
Journalists' salaries ...	700	491
Outside* journalistic and organizing services ...	65	75
Secretarial and general office services, salaries only	221	169
Office rent and charges, postage, printing and stationery, outside* duplicating, telephone, etc.	389	309
Photographs	45	35
Travelling and contact expenses	170	120
Press cuttings, newspapers, etc.	65	40
Office sundries, insurance, boys' fares, extra* messengers, etc., repairs, renewals and depreciation ...	80	80
	£1,735	£1,319

*This means the work the department itself cannot cope with, e.g., overloading at rush times, provision for holidays, etc.

The foregoing facts relate only to cost. It still remains to consider the *results* likely to be secured by one or two men compared with those of a specialized organization with journalists covering every branch of editorial and allied forms of publicity as and when required.

MEASURING The Facts of Commercial Vehicle Performance

These Special Instruments Remove all Human Bias from the Tests

New CHRYSLER-PLYMOUTH 15 cwt. Van in BUSINESS Road Test No. 6, conducted by R. TWELVETREES, A.M.I.Mech.E.

Here an observer is taking the test readings recorded on the Tapley dashboard instruments

COMMERCIAL vehicle performance can sometimes be an illusory quality when expressed merely in words. Much depends upon the skill and temperament of the person who undertakes the tests. Whereas one individual may produce a glowing report of any given vehicle, lack of enthusiasm on the part of another may result in an indifferent description of the same results.

Personally I never attempt a road test unless feeling fully fit for the job; but all our readers do not know that. Therefore, to conform with the standard of efficiency maintained by BUSINESS, I decided to experiment with certain well-known instruments in an attempt to reach a definite basis for *measuring* vehicle performance.

With the co-operation of Dodge Brothers (Britain), Ltd., I was able to conduct my experiments on one of their most recent productions, the Chrysler-Plymouth 15-cwt. delivery van, to be described briefly later.

First, however, I must explain the purpose and action of the Tapley instruments used for measuring performance. The Tapley Performance Meter is designed to measure vehicle "pulling power", that which enables the vehicle to accelerate and climb hills.

It will be realized that the power exerted by the engine in propelling the vehicle at any given steady speed is absorbed in overcoming friction and air resistance. It is the *remaining* pulling power which represents performance.

The capacity for hill-climbing and acceleration is determined by the amount of pull a vehicle can develop in relation to its weight. Accordingly, by taking the total weight into consideration, the available pull at any speed gives the value of performance at that speed. By taking the pull over the whole range of vehicle speed, the performance data is established definitely.

Pull Expressed in Terms of Lbs. per Ton

The degree of pull developed by any vehicle depends on the engine power available, the gear ratios and tractive resistance; but the resulting performance is influenced also by the vehicle weight.

In practice, however, it is inconvenient to consider the weight of different vehicles while testing, the pull and tractive resistance being expressed more readily as *lbs. per ton* weight of the vehicle, by which means the respective performance of all vehicles can be compared accurately.

For example, a small van weighing only 10 cwt. may give a pull of 100 lb. and a 6-ton truck 1,200 lb. at, say, 20 m.p.h. In both instances the pull *per ton* is 200 lb., while the acceleration and hill-climbing capabilities of both vehicles are exactly equal.

The Tapley Performance Meter gives readings in lbs. per ton and measures performance correctly both for acceleration and hill-climbing power without bringing any other factor—apart from road speed—into consideration.

The same unit of measurement serves to indicate the resistance opposed to vehicle motion and is, in fact, the only convenient figure by which comparative performance can be determined.

The meter is supplied with clamps for its fixture to the vehicle dashboard or steering column, or in the event of no suitable mounting position being available it can be fixed on its box which has three folding legs with pointed studs for steadying purposes, thus enabling readings to be taken when the instrument is placed on the floorboard.

The revolving dial must be allowed to come to rest at *zero* when the vehicle is standing on a level surface, the final setting being made by vernier adjustment.

To test acceleration on top gear the vehicle is slowed down to 10 m.p.h. or less, and, after the meter scale has settled approximately at *zero*, the vehicle is accelerated fully. As the speed increases the maximum pull is read in lbs. per ton, and the speed at which that figure is reached is noted. The speed at which maximum pull is recorded will vary with different types of vehicle and may be between 18 and 30 m.p.h. A good point about this testing method is that slight variations in road gradient may be disregarded; they do not affect the result.

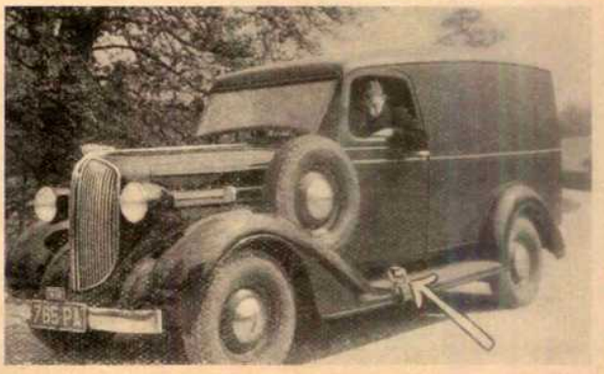
For a fully laden commercial vehicle up to 6-tons load capacity the average pull is about 70 lb. per ton and for light delivery vans up to about 200 lb. per ton.

How We Measure Tractive Resistance

As truck acceleration on the level is represented by its pull in lbs. per ton so is the rate at which it slows down, when de-clutched or running in neutral, measured by its tractive resistance in the same terms.

Tractive resistance acts as a negative pull tending to stop the vehicle. The latter tests are taken by driving at 15 or 20 m.p.h on top gear, then de-clutching and allowing the vehicle to slow

(*Continued on page 44*)



This view gives a good idea of the smart appearance of the Chrysler-Plymouth 15-cwt. van. The observer is reading the brake efficiency recording on the Tapley Decelerometer

FROM TH

Fig. 2. The new "Airline" design, 60" x 34"—£16 10 0

Fig. 1. The massive "Dynamique" Executive Desk, 66" x 36"

ART METAL offers the widest desk range of any manufacturer. Distinctive designs combined with constructional superiority make Art Metal the unquestioned choice of the discriminating business man. Here is a brief survey of the main Art Metal desk lines :

THE "DYNAMIQUE" (Fig. 1)—a massive desk of outstanding design for the executive who likes something "different".

THE "AIRLINE" (Fig. 2)—a range of nine models distinguished by rounded edges and island supporting bases. For private or general office use. Very popular with professional men.

THE "MOUNT VERNON" (Fig. 3)—an executive desk of "period" design in walnut, mahogany or oak grain. Statuary bronze trim, fluted legs and panelled back and sides.

THE "AIRLINE" SECRETARIAL DESK (Fig. 4)—with new type typewriter mechanism. The machine is housed inside the desk pedestal when not in use.

THE "STANDARD" (Fig. 5)—a wide range of single- and double-pedestal desks for every purpose, including many different types of executive, general office, secretarial, and typists' models.

THE "COMMERCIAL" (Fig. 6)—a series of 4-leg desks for general and private office use. Double-pedestal are full size 60" x 34", single-pedestal 45" x 34".

THE "SERVICE" SERIES (Figs. 7, 8 and 9). Low-priced desks for general office and factory use. Comprising double-pedestal general office desks (55" x 27½") and single-pedestal general office desks (42" x 27½"), also small typewriter tables and desks. *No sliding shelves or knee-space drawers.*

Art Metal

STEEL OFFICE FURNITURE

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Showrooms : **31 Kingsway, London, W.C.2**

TELEPHONE : Sloane 5201 (6 lines)

IRECTOR'S OFFICE TO THE JUNIOR CLERK'S DESK . . .

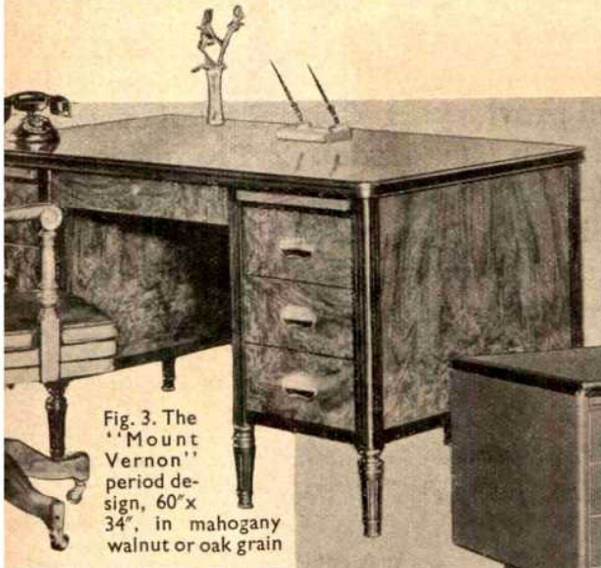


Fig. 3. The "Mount Vernon" period design, 60" x 34", in mahogany walnut or oak grain

Fig. 4. The "Airline" Secretarial Desk, 60" x 34"

Fig. 5. The "Standard" (8-leg) Desk, 60" x 34"— £15 0 0

Fig. 6. The popular "Commercial" (4-leg) Desk, 60" x 34" — £10 10 0

Fig. 7. The "Service" Desk, 55"x27½" — £8 17 6

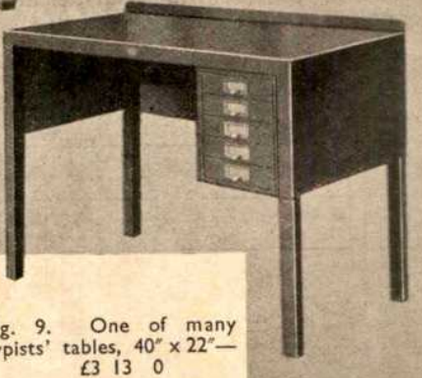


Fig. 9. One of many typists' tables, 40" x 22"— £3 13 0

8. The e-pedestal rice" Desk, x 27½" — 7 0 0

Art Metal
Steel Office Furniture
LONDON S.W.1

This Administration Plan Gives a *Daily* Profit and Loss A/c—*BY JOBS*

PART 2: For Part 1 of this article see page 9 of last month's issue

This method provides: 1 Control of all costs by comparison with 'standards'. 2 Prompt, accurate statistics daily with far less clerical labour. 3 Reconciliation of costs with the Financial Accounts of the Company. 4 Visible profit or loss daily on Production, Sales and Stock for every class of product.

By D. L. Paul, A.I.A.C.
(Member of the Institute of Industrial Administration)
Guest, Keen & Nettlefolds, Ltd.

HAVING dealt with the production let us now consider the routine attached to the delivery of wire from the warehouse to the adjoining screw mills and outside customers.

The first record that is made when wire is issued from stock is the delivery note. So, to avoid any future copying, this note must be designed to carry the information it contains right through to the compilation of the issues to the wire stock accounts.

To achieve this the delivery note is made out in triplicate, consisting of two tissue copies and one Slip-Post unit card (Fig. 1), which is forwarded at regular intervals (daily, but more often if necessary) to the cost department. These Slip-Post cards are filed in loose-leaf sheets (Fig. 2) in a similar way to the cost unit cards, one sheet being used for each quality, section, size and finish of wire.

At the top of each page there is a different coloured card showing the stock at the beginning of the week, the estimated requirements of the screw mills, and the customers' orders received, so that as each delivery note is filed the extent to which the mill requirements and customers' orders have been met is clearly indicated.

These Extensions Give The Sales Analysis

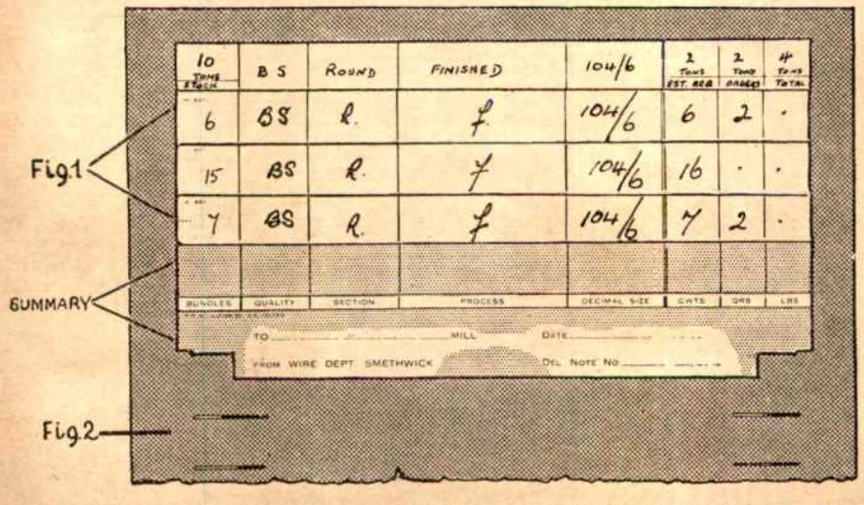
On Monday mornings a blank slip is inserted after the last entry on each page, and the total weight of that particular quality, section, size and finish of wire is entered in the space provided. This slip, together with all the others, is then inserted in another backing sheet from which a summary of deliveries (Fig. 3) is typed in triplicate—one copy of which is sent to the screw mill to which the wire has been consigned. The second copy of the summary of deliveries is the invoice and is priced and extended to give the sales analysis under "mills". The third copy is forwarded to the wire mill for reference only.

The Slip-Post cards are now transferred to another backing sheet which records the "month-to-date" deliveries of all classes of wire; it is similar to the weekly sheets previously described. At the end of the month a small blank slip (see "A" in Fig. 4) is inserted after the last entry on each sheet, and the total weight of wire delivered is entered in the left-hand column.

The slips are now priced at the cost price of the stock shown in the stock ledger, extended and slip-posted to credit the stock accounts (see Fig. 4) in the same way as the production, except that the entries are made on the right-hand side of the ledger sheet instead of on the left.

Needless to say, all the stock accounts are filed in Visible Index Cabinets, and an outstanding feature of the system is that each account gives a complete survey of each class of wire in stock. It is not merely a record: it is an active source of information for all questions concerning production, sales, costing, wages and invoicing. On each account a small card (see "B" Fig. 4) is inserted in the visible section to show the selling value of each class of wire so that the profit or loss on every stock account is always available.

In our stock records we now have under qualities, sections, sizes and finishes, the following current and past information:



Once the Delivery Note has been made out this Unit Card provides all the information for Invoicing, Sales Analysis, Costs, Stocks and Statistics without any further copying or posting of figures

For the SALESMAN, or Sales Executive

There's a warm welcome to enter either door of a FORD "TEN" saloon, an invitation to be comfortable, relax, take things easy after an exhausting call, or refresh your nervous energy for the next.

The FORD "TEN" gives you performance, ease of control, simplicity and noiselessness of gear-changing, efficiency of brakes, steering and suspension quite uncommon in the £200 class; and its complete equipment, its degree of finish, inside and out, stamp it emphatically the car for the Salesman or Sales Executive.

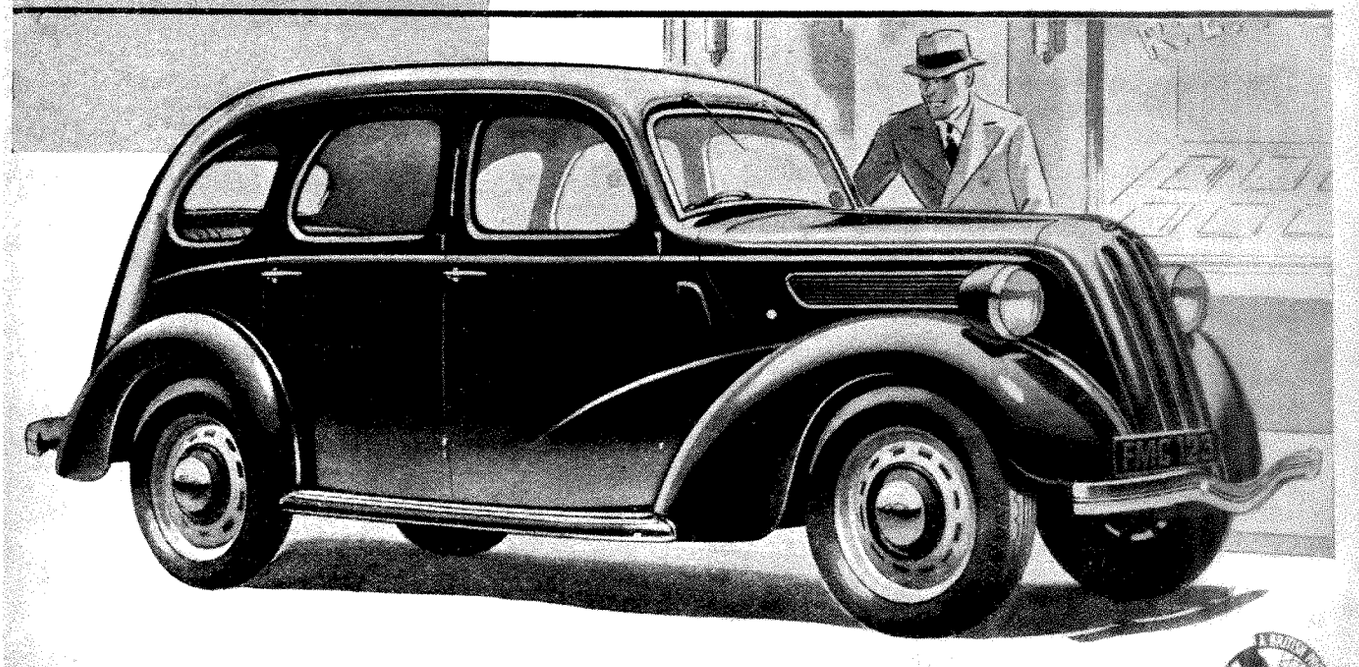
Let us send you a Catalogue: Permit the local Ford Dealer to demonstrate its real suitability for your service.

Ford "Ten" Saloon, £145

(Engine Develops over 30 b.h.p., Taxed at Only £7. 10s. per Annum in Great Britain.)

Double-Entrance Saloon, as Illustrated, or Touring Car - **£157. 10s.**

(PRICES AT WORKS)



Overseas Delivery of any Ford Car will be arranged, on request, by any Ford Dealer, or through our London Showrooms

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1. **Production and costs in detail for analysis and comparison.**
2. **Stocks in weight and value with average prices.**
3. **Sales in weight and value.**
4. **Selling prices.**
5. **Profit or loss on sales.**

A profit or loss on sales provides a very clear survey of the relative margin of profit on different sizes and classes of wire which would be equally valuable to any organization with a variety of different products.

While the usual profit and loss account will give the net trading result for a given period it will not give an analysis of the profit on the individual sales; a net profit of, say, £1,000 may well be considered satisfactory when, in actual fact, there is a profit of, say, £1,200 and a loss of £200.

Essence of This System is Its Flexibilty

The flexibility and simplicity of this system is so striking that it must be difficult for anyone who is not conversant with its working fully to appreciate the value of the information which is so easily obtained. Its adaptability encourages the compilation of statistics for the guidance of the management, yet its speed and accuracy remain sufficiently reliable to withstand the demands of a regular routine timed and planned on a scientific basis.

It does, I think, fulfil all the ideals of what I call Rational Administration, yet its cost is no more than that of the stationery and the clerical labour of one girl working on an average 25 hours per week.

This is only a fraction of the time that was taken previously when figures were copied and re-copied in order to obtain merely the wages and deliveries, and when costs as detailed and accurate as those to which I have referred in this and last month's article were non-existent.

The works and accounting staffs, having been relieved of so much clerical work, are now free to devote their time and energy to studying the results which have been obtained. They are able to investigate the question of lost time and examine the reason for delays. They are in a position to analyse the defective material and workmanship under types of material, machines and operators, for the benefit of the departmental managers. Items of expenditure which have exceeded the standard are discussed with those concerned, economies are effected and waste eliminated.

In addition, valuable assistance is given to the management by interpreting the results speedily and accurately in the form of a précis. This is issued as soon as possible after the end of the period so that they have before them not only the results but the *reason why* these results are not better.

Efficiency Lies in This Kind of Organization

In large organizations where there are many producing and service departments one is often faced with the difficulty of organizing the costing personnel so that every form of productive activity is under control.

Experience has shown that by allocating certain departments or groups of departments to each member of the costing staff the work is handled much more efficiently and far quicker than by having one member deal with maintenance expenditure, another with sales, and another with stocks.

It is practically impossible for the cost accountant of a large organization to keep in close touch with every department as each one has its own peculiarities and difficulties, and in many cases one costing system cannot be applied to all the departments.

Each member of the accounting staff is therefore held responsible for the costs, stocks, and statistics relating to his particular section, and it is his duty to keep in close touch with the departmental managers and to assist them to increase the efficiency and reduce the costs of their various productive units.

In this way every section of the factory or works is represented in the cost department and a link is forged between the works and accounting administrations which unites the two vital centres of control.

This procedure, together with a systematic planned routine for the entire clerical staff, will provide the management with a complete and accurate news-sheet for the whole organization. This will eventually become the "Times" of the Company, and will result in quick decisions and active steps being taken to guide the industry through periods of prosperity and depression with the same degree of accuracy and control that is possible during normal periods of production.

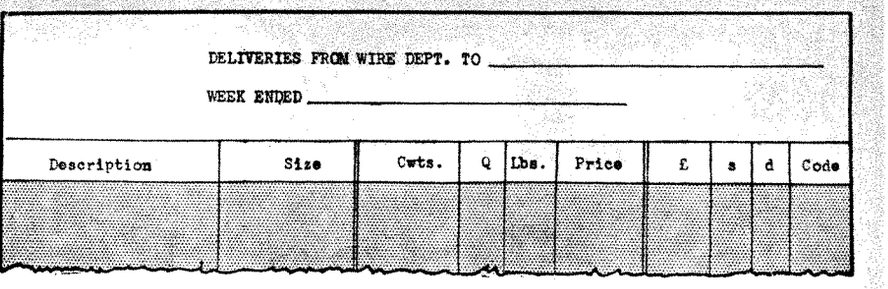

Fig. 3.

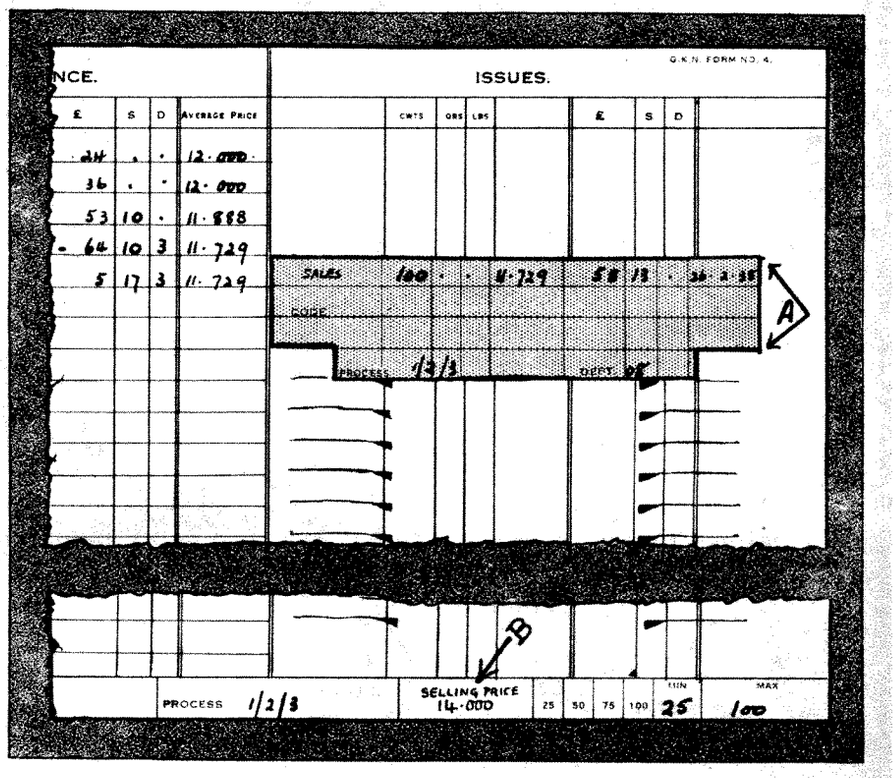

Fig. 4. Shows the credit side of the Stock a/c* and the Sales for the period. The Profit or Loss on Production, Sales and Stock is always available by comparing the average prices with the Selling value (marked "B")

**The debit side of the stock a/c showing the cost of production was illustrated on page 10 of last month's issue.*

Special Note

Throughout the first part of this article, published on pages 9, 10 and 40 of last month's issue and in the concluding second part published above The "Paramount" (Pat. Nos. 225069/297992) and "Slip-Post" (Pat. No. 435368/35) systems illustrated and referred to are produced and marketed solely by The Copeland-Chatterson Co., Ltd., of Exchange House, Old Change, London, E.C.4—ED.

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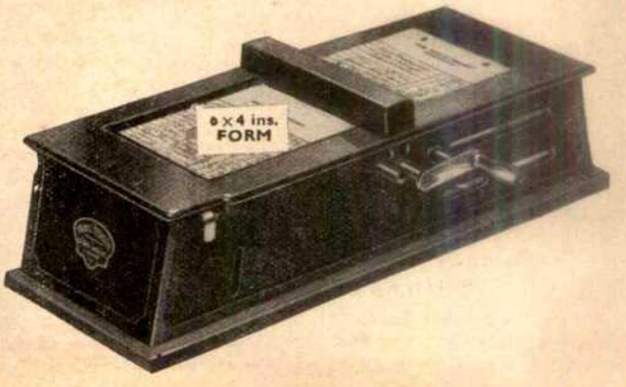
in conjunction with the continuous form attachment which fits any typewriter

guarantees at least 30% faster production of all repetitive routine work such as billing, invoicing, day-book recording, works orders, inter-house records, etc., etc., and saves as much as 50% of the energy expended thereon. All non-productive work, of the kind which fatigues typists and eventually affects their powers of concentration, is cut out. Forms are fed smoothly to the machine; there is no interleaving of carbons, no aligning and correct registration is assured.

FOR HANDWRITTEN RECORDS the PRIMUS Autographic Register for use with Continuous Stationery ensures the same speedy, smooth operation, while a copy automatically locked in the machine provides your auditor with a check on each transaction.



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Save Still More Money
On Your Air Mail Postages

NATIVE Indian labourers are among the world's most prolific letter-writers. Many of them are employed on estates in Malaya, but their homes are in India. Every week the labourers write long letters to their wives and children, mothers and sweethearts on the other side of the water. Indeed they write such long letters that—since the introduction of the Empire mail scheme—a special light-weight paper is being manufactured for their use.

Eleven sheets of this paper, with envelope, weigh under half an ounce; so the long letters go air-mail, still for the equivalent of three-halfpence.

Large business houses throughout the Empire are now giving serious attention to the question of special paper for air-mail purposes. *East Africa*, a weekly magazine published in England for circulation in Africa, now publish a special air-mail edition, printed on light-weight stock.

A firm of motor manufacturers with branches throughout the Empire use two kinds of letter-paper—one for use in England, and the other for abroad. Imperial Airways do the same for inter-departmental correspondence.

Not all air-mail paper, however, is as light as eleven sheets of flimsy supplied to the Indian labourers. Most business houses prefer a heavier stock for filing and record purposes. So they use a slightly thicker paper and type on both sides to keep the weight down. In order that the writing will not show through, the paper is tinted to give it opacity.

Four sheets of this medium-weight tinted air-mail paper, with envelope, weigh less than half-an-ounce. Typed on both sides this gives an eight-page letter.

It is not only for letter purposes, however, that business houses are using light-weight papers. Banks, insurance companies, etc., who record their transactions on invoices, bills of lading, and so forth now have their printing done on lighter stocks. In those cases where large quantities of these forms are sent from one part of the Eastern Empire to another in daily or weekly packages, a big saving is effected in this way.

Those firms which continue to send by air-mail packages of forms printed on heavy bond paper are naturally finding that the air-mail scheme has involved increased expenditure on postage. They have not yet discovered that their costs would be greatly reduced by lighter paper. Tinted air-mail paper of good quality suitable for all office purposes can now be obtained from any large manufacturer.

The most popular colour for the tinted paper is blue. It is made by John Dickinson, Limited, and three or four other large manufacturers. As good quality light-weight paper is made only of the best rags it is slightly more expensive than ordinary stock. But the extra cost is more than off-set by using both sides and by avoidance of surcharge.

Cheaper papers are either made of wood pulp or esparto grass. Papers made from both these materials are quite serviceable but heavier, and are apt to lose colour quicker. To make a light-weight paper of good durable quality, rags are always used because their long fibres hold together better and the paper does not tear so easily. That is why it is preferred for filing.

This 'Bulk' Plan
Will Cut Your Travelling Costs

THE "bulk travel" system recently introduced by Imperial Airways provides firms with the chance to make considerable savings in time and money, particularly as the staff most concerned with foreign travel are executives.

In brief the system is this: You pay in advance a lump sum of money to cover a stated period of European flying by your staff. You are provided with special air-travel vouchers which can be exchanged for ordinary tickets at all stations of Imperial Airways and also at those of other air companies throughout Europe. The rates paid for this travel *are lower than those which you would pay if you bought tickets in the ordinary way.*

A number of firms are now using the system. Harrods, Ltd., for example, employ it for their buyers who are constantly visiting Paris, Berlin, Budapest, Vienna and other Continental centres. By using the "bulk travel" system and flying from city to city the buyers not only save time and money but they are able to do their jobs more efficiently. They can keep in closer touch with the markets and make more "speculative" journeys because the expense factor is not so important.

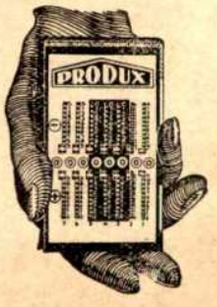
This is only one example out of many. Wherever a firm has a staff that need to make these journeys the system is worth while. And if you do not already travel abroad for business these terms might enable you to embark on the idea.

•

A New
Low Cost, Vest Pocket
Calculator

A NEW type of vest-pocket calculator has recently been put on the market in this country. It is a German invention and can be used for addition, subtraction, multiplication, and division.

The "Produx", as it is called, is available in two models. One is for £ s. d. up to £99,999 19s. 11¾d., and the other is a numerical model for calculations up to 99,999,999. Both are vest-pocket size, and each costs 5s. 9d. For executives or members of the staff who have to do figure work this miniature calculator is a handy little machine. It is speedy, accurate, and shows results at a glance.



This Calculator is one of the smallest on the market

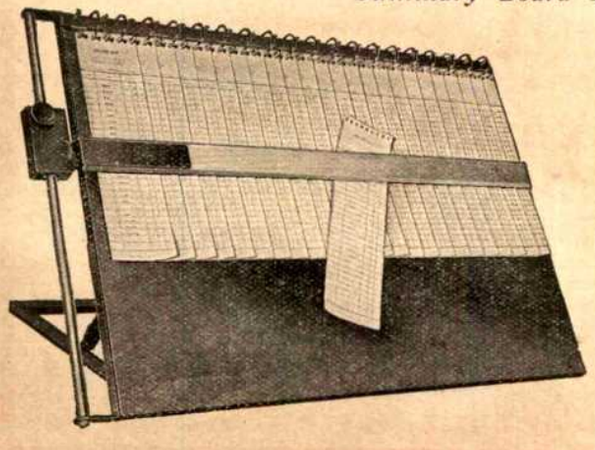
•

Clear Lettering Speeds Up Office Reference Work

CLEAR lettering on folders, files, indexes, containers, and similar office equipment is only a small matter but one which does aid in speeding up ordinary routine work.

There is now on the market the "Uno" office outfit by use of which a junior can turn out a smart job of lettering with success. The outfit consists of a stencil, a guide, drawing-board, a variety of pens and bottles of stencil ink. Besides being suitable for all the usual types of office lettering the outfit can be used for writing showcards, price tickets and similar material. Further details can be had from A. West & Partners, 91 Petty France, Westminster, S.W.1.

Summary Board Saves Time



Left: *Use of this Summary Board avoids preliminary copying when adding figures from many report sheets, thus saving time and possibility of errors. The board can be used with any type calculating machine. Punched report sheets are placed on rings and stubs of the sheet holder bar. Sheets can be arranged in overlapping or shingled form, only a single column being exposed. Product of Percy Jones (Twinlock) Ltd.*

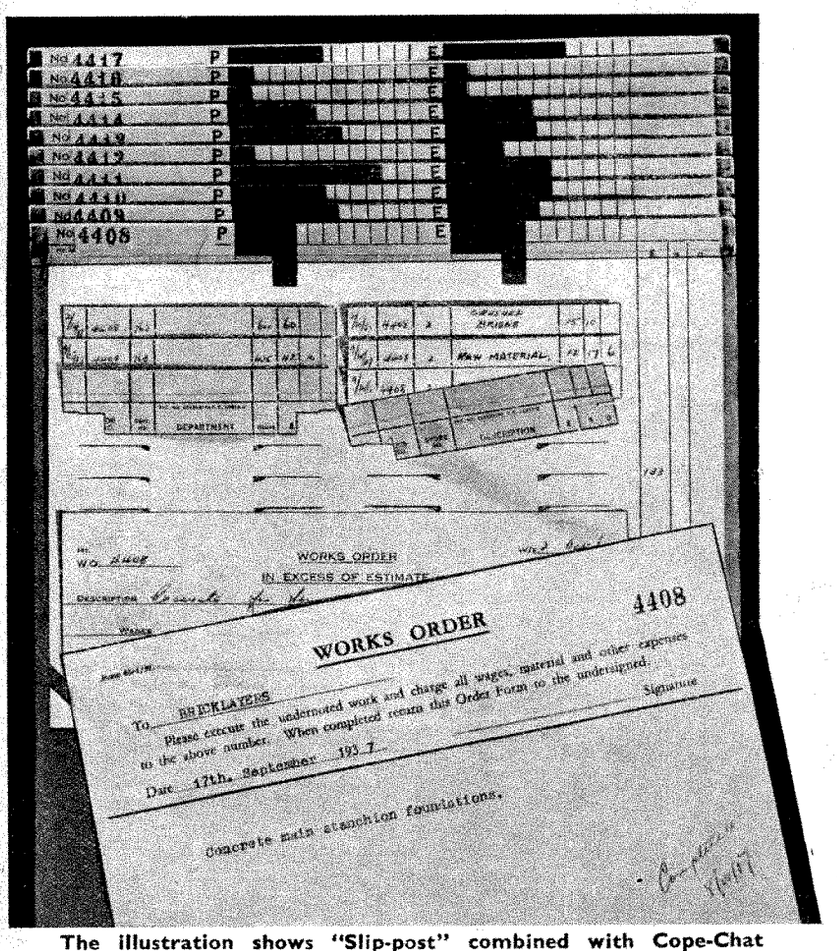
First—LOOSE LEAF
(Cope-Chat patented the first effective Loose Leaf Ledger)

Next "PARAMOUNT" HAND-OPERATED PUNCHED CARD SYSTEMS

THEN "SPEEDRAIL" THE HIGH SPEED MECHANICAL POSTING RAILWAY

and now—"SLIP-POST"

PROBABLY THE GREATEST DEVELOPMENT IN OFFICE PROCEDURE SINCE THE INTRODUCTION OF LOOSE LEAF



The illustration shows "Slip-post" combined with Cope-Chat Vertical Visible to give "At-a-Glance" Works Programme Control

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6. Applicable to any written record
7. Suitable for large, medium and small organisations

and (last but not least)

8. Speeds up production of accurate summaries for analysis and comparison

1 FIRM IN 1 YEAR SAVED 133,000,000 CLERICAL ENTRIES

YOU owe it to YOUR business at least to investigate the method, its simplicity and its benefits. Simply ask for "Booklet A47" which will be posted to you without delay or obligation.

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BRANCHES THROUGHOUT THE PROVINCES

BUSINESS EQUIPMENT REVIEW

New *Paper Sheet* Duplicating Medium Widens Range of Work on This Machine

WHEN a new type of duplicating machine is put on the market to-day it makes interesting news for most firms. For that reason alone the new "Multigraph" Duplicator, a product of Addressograph-Multigraph, Ltd., is of importance but it also has other claims for executive attention. These can be summed up under five headings: (1) versatility; (2) economy; (3) simplicity in operation; (4) quality of reproduction; (5) use of a wide variety of weights and sizes of paper.

Only Needs Filing Cabinet Space

During an inspection of the new machine and a demonstration of it at work last month I saw how and why the advantages mentioned were obtained. But before going into detail let me first describe briefly the machine. It is an electrically operated duplicator which takes up no more room than, say, a small filing cabinet. All controls are grouped on the same side of the machine—electric starting switch, paper feed and ink controls, and a lever which suspends production by disconnecting the paper feed.

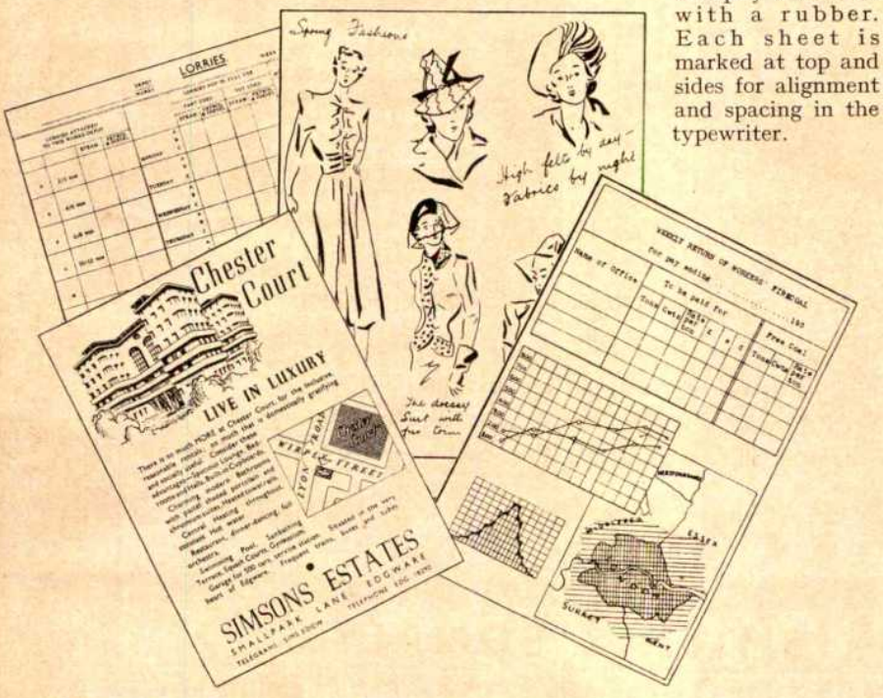
The automatic paper feed is the friction type and holds a ream of paper. Once the paper is in position you have no need to give it further attention. The paper feed can be automatically raised, lowered and adjusted to the size of standard office forms and documents. The feed will take paper up to a size of 9¾ in. by 14 in. Speed of production is 3,500 copies an hour.

In considering this new duplicator it is necessary to take into account the new duplicating medium to be used with it. This, after all, is of primary importance.

Actually, there are three duplicating media: (1) the "Duplimat"; (2) the Duplex plate; (3) the Photographic plate. Of the three the "Duplimat" is the most unusual. It is a sheet of specially treated strong paper upon which you can write, type or draw. From this master sheet you can obtain reproductions on almost any kind of paper of a variety of weights and grades up to post-card stock.

The outstanding feature of the new medium is its simplicity. You can handle it as easily as your typist handles an ordinary sheet of paper. Indeed, you need not take as much care as she would because the "Duplimat" is not fragile or sensitive. You can write, draw and rule on it with an ordinary pen, or turn it up in a typewriter and type on it with the usual touch. If you make a mistake, you simply erase it with a rubber. Each sheet is marked at top and sides for alignment and spacing in the typewriter.

Operation is simple, all controls being grouped on the same side of the machine (see illustration). Office juniors easily become first-rate operators



Examples shown here are typical of range and quality of work produced in one or more colours on the new machine. Whether for internal or external use, documents, forms, leaflets, sales letters, etc., can be run off at the rate of 3,500 copies an hour. Almost any paper of weights and grades up to postcard stock can be used—a new feature in duplicating

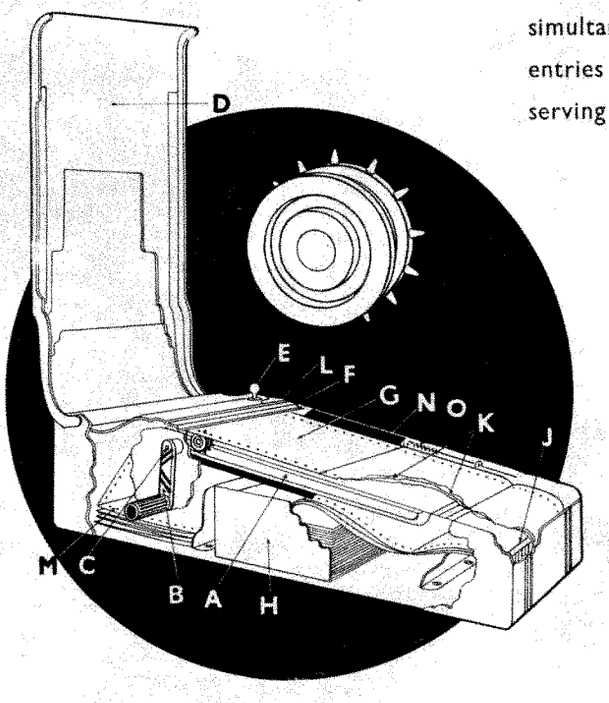
The value of the "Duplimat" lies in short run jobs up to, say, 2,000. A special sales letter or leaflet, for instance, can be run off in the space of half an hour for a limited "shot". The time, cost and work involved in the job is negligible. Even if you include an illustration the work is speedy and cheap. Your artist, using an ordinary pen or brush and a bottle of "Duplimat" writing fluid, can make his sketch on the sheet and there it is, ready for use.

When you need intermittent runs extending over an unlimited period, the Duplex plate is the medium to use. This is a paper-thin sheet of metal which can be used on both sides—a point of economy. Preparation is similar to that described for the "Duplimat" sheet. You can write, draw, type, etc. on the sheet. When you have run off the required number of copies you remove the plate from the machine, and store it away until you need another batch of copies. Up to 10,000 copies can be taken from each side of one sheet.

ALACRA

is saving money for Business

TIME lost by unnecessary labour in book-keeping and avoidable transference of figures or entries from one sheet or page to another—all that is banished for ever by *ALACRA*. This simple, dependable system enables one person simultaneously to produce up to six clear, legible entries on as many different pages, each page serving a definite record-keeping purpose.



LEFT.—Interior of *ALACRA* Registrator, showing the simple ingenious way in which *ALACRA* Continuous Forms are fed to the writing table, then filed.

A Carbon clamp.
B Registrator handle.
C Retaining Screw for the handle.
D Lid.
E Lid of the audit copy compartment.
F Pressure bar covering the pinwheels.
G Writing table.
H Form Compartment.
J Red Idler.
K Cloth Carbon Shields.
L Scored line at top of writing table.
M Audit Copy.
N Carbon Roll.
O Carbon Spindle.

INSET PINWHEEL (proportionately enlarged).

PRACTICALLY limitless in its application, from the smallest hand-operated Registrator to the electric models, the *ALACRA* system can be expanded to embrace the entire record-keeping activities of a large organization.

ALACRA means handier and more legible records than are possible with tedious, old-fashioned book-keeping methods. *ALACRA* means less risk of error, less need for checking. This modern, uncomplicated system brings greater all-round speed and smoother efficiency **with less effort.**

A POST CARD or telephone call will bring you full details of the *ALACRA* system.

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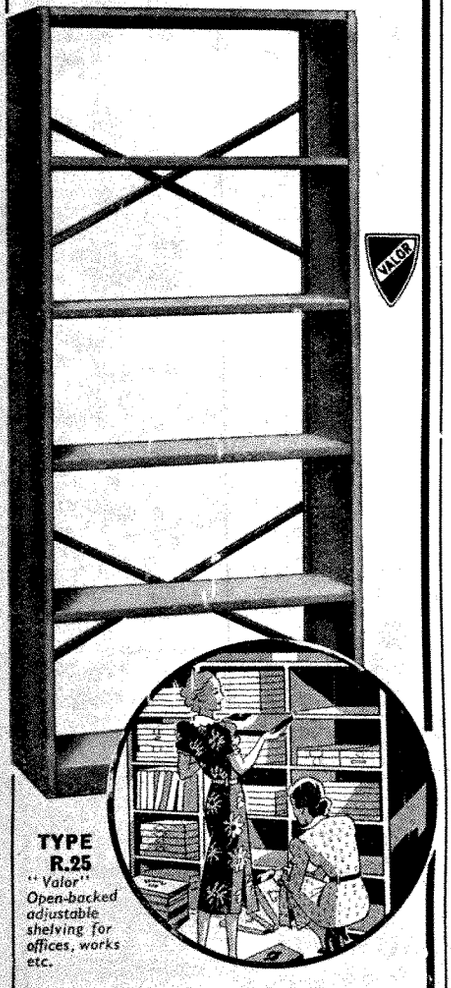

TYPE R.25
"Valor" Open-backed adjustable shelving for offices, works etc.

There's a type for every purpose

Write to-day for a complete illustrated list, No. 29/V105.
We can quote to your own requirements for Lockers, Shelving, Bins, Sheet metalwork, etc.

THE VALOR CO. LTD.
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London Address: 120 Victoria Street, S.W.1

R 2

The Photographic plate, the third medium, is for the production of ruled forms, light face printer's type matter, letter headings and so on. This plate is prepared for you by Addressograph-Multigraph, Ltd. Matter to be reproduced is photographed and printed down on to the plate. You merely put the plate in position on the machine and run off copies as required. The plate can, of course, be stored for re-use and will give at least 30,000 copies. The cost of preparing a Photographic plate varies according to the amount and nature of the matter used on it. On average, the cost is comparable with that of the other media when taking into account the longer life of Photographic plates.

The work of the machine which I saw was clean and sharp, first-rate stuff that would be to the credit of any business to send out. One ruled form I saw produced was, for example, in every way comparable to a pen-ruled printing job yet the total cost of producing this was only a fraction of the usual charge. This is a typical instance of how you can cut your normal stationery costs to less than half.

Colour work is possible on the new machine and the registration is excellent for such a low-priced machine. This opens up wide scope for two- and three-colour jobs *where dead registration is not necessary*. Touches of colour to liven up a leaflet or folder, for example, can easily and cheaply be used. I saw some good instances of this work.

One of the outstanding features of the machine is the fact that almost any kind of paper can be used. There is no limitation to absorbent types of surface. This is a great advantage. It means that you can, for instance, send out sales letters duplicated on your ordinary letter-heading paper, even duplicating the letter-head itself. It is also possible to use such "trick" stunts as hand-written (ink) signed letters. The reproduction of this type of letter is convincingly like an original.

The release from normal restrictions of the type of paper to be used for the duplicating work widens the scope of the machine vastly and the litho-offset principle of reproduction used ensures that results are very good. Copies dry as they come off the machine so no interleaving is needed even when both sides of a sheet of paper are used.

As I have shown, no special tools or methods are used in operating the machine. An office junior easily becomes a skilled operator. The duplicating media costs very little, ink consumption is neglible and the running expenses of the machine are an insignificant factor.

There are few businesses to-day where some sort of reproducing machine is not in use or could not be used with advantage. This applies to businesses large and small, from the 10,000-staff concern to the one-man office. It is a point that the makers of "Multigraph" Duplicator have kept in mind. They have made this machine to have all-round efficiency and usefulness in any kind of duplicating work. And they have, too, put it on the market at low price to bring it within reach of small manufacturers and other business men.

Management's *Blind Spot*

(*Continued from page* 8)

regular gradations and through regular channels. All orders, instructions, and information naturally take this course. The executive, then, feels convinced that any information about the attitude of subordinates must inevitably come back to him by the same route as that along which information and orders proceed, only this time, upward from worker to supervisor, to department head, to chief executive.

Since the latter appreciates keenly the great value of using these routes in passing information and orders downward, he reasons that it is equally necessary, if morale is to be preserved, for information about human results to pass upward to him in the same manner. In other words, he assumes that the degree of success of executives in "getting along" with subordinates can be checked and evaluated through information provided by those executives themselves.

Often overlooked in this assumption is the truth of the old proverb (psychologically as sound as such generalizations can be) that a man carries his shortcomings on his back. Most men are naturally slow to recognize and slower to call attention to anything bringing discredit upon their work—particularly in the eyes of superiors. Furthermore, men artless in human relations, often in all good faith, fail to recognize significant indications as significant. In accepting at face value sub-executives' appraisal of their own success in building high morale among their subordinates, the chief executive unwittingly closes his doors against the information he wants and needs and makes impossible the counting of human costs as he accounts and controls material costs in his business.

In close proximity to the organization blind spot and closely resembling it in nature, is the tendency to consider the industrial relations problem as "the labour problem".

Such an attitude and the use of such an expression is likely to be a substitute for critical thinking, and to prevent a realistic approach to the difficulties. This unfortunate conception is founded upon a false dualism: the idea of executives *and* workers, of "management" *and* "men". The assumption, conscious or unconscious, which follows is that "management" is the thinking, policy-making executive and responsible group and that "men" is the group of automatons supplied by some weird trick with unaccountable emotion centres, but acting on the lowest levels, without thought and without real responsibility.

Dualism of management *and* men is a figment of business imagination and need have no existence in fact. Such an attitude *creates* a distinction which would not otherwise exist. And, having created a gap, it constantly accentuates the separation.

These distinctions, which have done such infinite harm, are entirely artificial. The only essential difference between the upper levels and the rank-and-file is that

in one case there is direct authority over *people*, in the other over *things*.

There are no organization principles which do not apply with the same force to every level of the organization. Adequate authority and responsibility is just as necessary to the morale of the lathe operator or the salesgirl as it is to the production manager or the merchandise manager. There is the same need for a man to know that he has a real job to do and that his superior knows he can do it, to understand how his effort is judged, to be treated with a decent respect for the human need of understanding and being understood.

An incident in a motor-car manufacturing plant partially illustrates the satisfaction of such need. Whiting Williams tells about working in a steel shop, shaping large metal sheets. Few in the department knew the use of these plates. After some weeks he discovered on a casual visit to the next department that they were being made into automobile bodies and that so important was a perfect finish that even slight defects would make an entire plate useless. When he told his fellow workers they were much surprised. Not only did they show more interest in their work from that moment but they gave more attention to the details of the finishing process.

The Very Simple Truths Too Often Overlooked

Both employer and employee are prone to overlook truths too simple to seem important.

Men at all levels must manage. "Executives" are "employees", and employees must execute. *Morale reflects organization*, and *organization reflects morale*. Executives and subordinates possess the same human traits.

No impartial observer can but admit the truth of assertions about the ambition and self-seeking of many labour leaders and the frequent intimidation of neutral or even loyal workers. But against any and all reasonable reservations regarding the appeal of unions, the mushroom growth of the movement affords eloquent testimony to the all-too-general failure of management to know the minds and motives of workers and to make its workshops, for the most part, anything more than places of meaningless drudgery and frustrations.

Some individual managements have stood out against the injustice of compelling workers to join unions against their will and have made vivid the probability of the closed shop an element of complete control which so definitely distinguishes the present union drive from other older and "responsible" labour movements.

KARDEX

More Paper Profits enter your accounts receivable records than exit on to the balance sheet. The loss can be found in the Accounts Department itself—in faulty credit and collection methods—in slow rendering of statements—in waste effort due to old-style record housing—and despite the latest accounting machines.

Kardex Vertical Visible brings a new conception of speed and simplified control to credit collections and machine-made entries.

Why not examine this new principle to-day?

It is ideal for Sales and Hire Purchase Accounts.

Write for folder No. 601, "The brain behind the Accounting Machine." (A similar principle can be applied to hand entries.)

KARDEX I, LEADENHALL ST., LONDON, E.C.3.

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PLEASE SEND ME FOLDER No. 601, "THE BRAIN BEHIND THE ACCOUNTING MACHINE".

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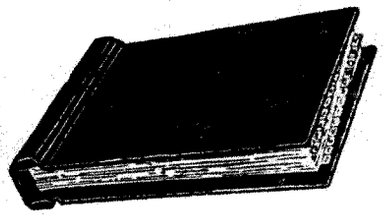
From 6b, softest, to 9h, hardest

Hundreds of firms keep their records in

ROBIN
Looseleaf Books



BECAUSE—

1. It is quicker to enter records on a leaf than on a card.
2. Any "Robin" leaf can be referred to in a few seconds.
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6. "Robin" books are made in ten standard sizes and a large variety of stock record leaves is available.
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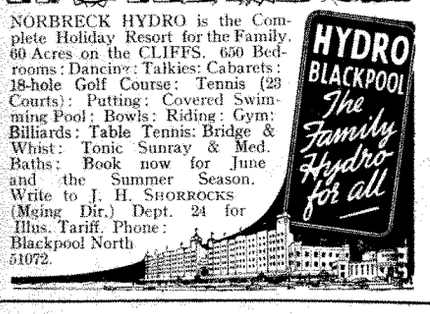


Management's objection to the threatened loss of its power is definite: "the right and duty of management to plan and supervise operations".

Not so definite, but doubtless even stronger, is business rebellion against the utter hopelessness of the condition which it feels in a moment of extremity that complete unionization will inevitably bring.

Management sees a vision of its industry organized as two armed camps, with no interest in common save in the amount of financial returns. It sees its workers alienated by this alignment, with hope of co-operation permanently lost. And this vision has become reality in certain of those industries already completely unionized.

Despite the long history of comparative failure in industrial relations, it may be that such managements are desperately eager for something which seems especially valuable just because it seems almost lost for good. As a hungry man who, in a moment of satiety, had rejected food offers to pay well for it when he thinks the supply is growing meagre, so management may now be willing to pay real effort and unprejudiced thought for employee co-operation.

Industry need not surrender. The dangers inherent in complete unionization could be utterly transcended if business would substitute a true picture of workers' motives and desires for the false prejudices and misconceptions which it now has. For management, and management alone, can satisfy the most vital of these desires.

The blind hope of business to make the best of unionization must be translated into a determination and a method. Business must do more than yield to the strategies and demands of union leaders. It must supply the additional effort, intelligence and leadership needed to ensure that its concessions to labour will bring assured returns in increased employee goodwill, co-operation, and effort—returns of genuine satisfaction and security for *all* the human factors in industrial relations.

The initial task is one of discovering the *relative importance of workers' motives*. Modern psychology has provided the method.

Management Trends

(*Continued from page 12*)

have discovered a very strong body of opinion that Opel cars are popular, *not* so much because they are just a little cheaper than the cheapest British car, but because *they offer something which the British car has not got, at the price:* a convertible 4-seater coupé body.

Our changeable climate is one for which a convertible full-size coupé is particularly suitable, but to get such a body on a British car a considerable extra price is demanded.

We suggest, therefore, that rather than turn helplessly for Government aid, British car manufacturers would do better to turn their energies towards producing something for which buyers are obviously showing a preference.

As to prices, we believe that the selling prices of some popular British cars could (while still showing a good profit all round) be reduced below their present levels.

The British car manufacturers' "dilemma" is therefore a problem of management and marketing, *not* a situation calling for panicky invocation of Government aid.

●

Do Your Exhibitions Reveal 'Fair' Trade?

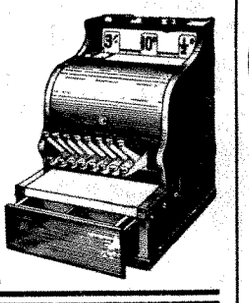
IN a north-bound train from London we met a director of a large firm in a very well-known combine of textile manufacturers.

This man was travelling to visit a trade exhibition, where his firm had a stand, in a not very important town. That so highly placed an executive should travel a long distance to visit a local trade exhibition surprised us, so we inquired his object. The explanation brought up what we believe is an important point to manufacturers:

"Well," commented this director, "we are spending some £10,000 a year on trade and public exhibitions, but we feel there is considerable ground for the contention of some of our marketing

CUT OUT GUESSWORK!

Few men know the exact amount of money in their pocket—few traders know how much cash is in their till, unless they have a modern till like the Gledhill, which shows exactly where you stand at any moment. Accuracy and knowledge mean efficiency. Modernise your cash checking system—get a genuine Gledhill. Over 100,000 in actual use. *Send for details and Catalogue.*



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MANIFOLDIA LTD. of WEST BROMWICH
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Leabank Chairs for good work and good workers. Preserve the healthy and efficient upright attitude. For men and women in office or factory.

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56 KINGSWAY, LONDON, W.C.2

experts that 'exhibitions are not what they were', and I am investigating the whole matter with a view to revising our policy towards exhibitions in general.

"In towns where we have participated in exhibitions we have for some time been keeping a carefully devised check on the business in those towns for the months following the exhibition. The results have been extremely disappointing. No matter how cleverly exhibits have been tied up to the interests of local retail distributors, practical benefits to us have not justified our expenditure.

"Coupled with these statistical reports I myself have been visiting exhibitions to get a first-hand knowledge of the conditions, and I am reaching the conclusion that in the case of public exhibitions people are coming to regard them more and more in the nature of 'fairs' where the centres of interest lie in the increasing number of stands selling cheap gadgets. The status of exhibitions is falling, and this an important factor to serious manufacturers.

"In the trade exhibitions there is definitely a declining interest. This may be due to a surfeit of trade shows. The local trade exhibition certainly has lost its novelty; serious attendances are positively on the wane.

"It will not be our plan to forsake exhibitions entirely, but my investigations are proving clearly that we must drastically revise our attitude towards them. Participation will henceforth be confined to a *very* few carefully picked shows in London and the main provincial centres."

Few businesses give to the question of exhibitions the same calculated thought that they devote to other sides of their sales promotion. In the light of the above authoritative data, therefore, it would seem that the exhibition factor is one which calls for close attention.

●

This House Magazine Aims To Increase Customers' Profits

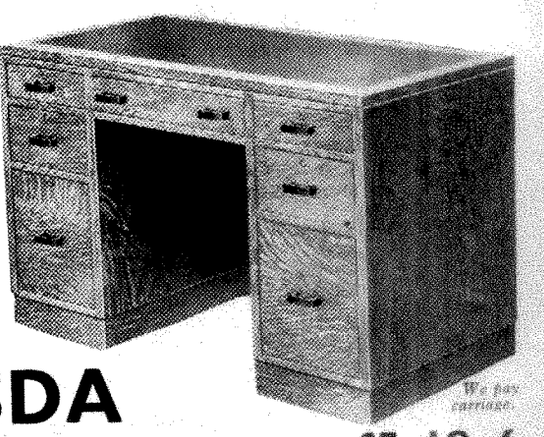
SOME house magazines are remarkably successful in building sales, especially when they are aimed at helping the firm's customers to increase turnover.

This is the aim of *Masseeley Users' Magazine*, the first issue of which was published by Masson Seeley, Ltd., in April. Instead of carrying the usual house magazine editorial matter—giving details of staff changes, photographs of the works, and so on—all the articles contained a specific "How to increase YOUR profits" angle. For instance, one story told is that of a retailer who, by adroit use of point of sale advertising, has built up considerable *plus* sales. Another article tells how to use the "moving annual total" system as the "simplest and most informative way of keeping current records of significant figures from the viewpoint of management as distinct from the specialized needs of the accountant". Other articles are equally informative and helpful.

The magazine is a good example of sound business policy.

AMAZING OFFER

of high-grade **DESKS** by **OSDA**



Here is the finest, most phenomenal value we have ever offered. The desks are worth *more* than double the price we ask, are beautifully made — and certainly look it! They carry our 3 years' guarantee and are ideal for either Office or Home.

We pay carriage

£5.18.6

on **7 DAYS' FREE TRIAL** to approved customers.

The 14-guinea double pedestal desk above (offered at £5.18.6) is 48 in. wide x 24 in. deep, lined top, and in figured oak, polished light, medium or dark.

Send for full list of office furniture chairs, etc.

The 10-guinea single pedestal model on left (offered at £4.18.6) is 38 in. x 22 in., various shades of oak.

Both models can, if desired, be supplied specially in any finish whatsoever.

DO NOT MISS THIS WONDERFUL CHANCE. ORDER TO-DAY. (City 3313)

£4.18.6 (Carriage Free)

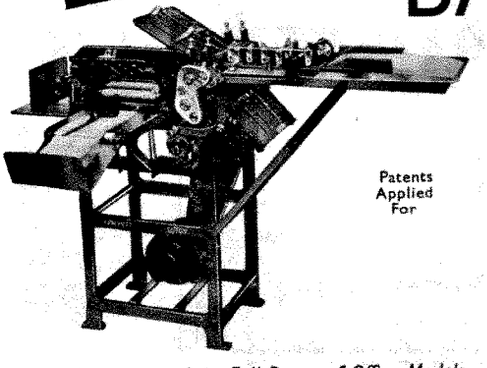
OSDA Ltd., 53, OLD BAILEY, LONDON, E.C.4

Also at 16 St. Mary's Parsonage, Manchester (BLA 6345)

(8223)

HERE'S NEWS!

BANCROFT



Patents Applied For

OFFICE FOLDING MACHINES

FOLD YOUR OUTGOING MAIL ACCURATELY—AND

20 TIMES FASTER THAN BY HAND!

SELF-REGISTERING FEED
AUTOMATIC PACKING
EASY SETTINGS
QUICK CHANGE-OVER

Ask for Particulars of the Full Range of Office Models.

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LEICESTER, BRISTOL, SOUTHAMPTON, GLASGOW, EDINBURGH.

Make Your Display Matter *Readable*

MORE and more firms are installing in their publicity departments equipment for producing their own showcards and other point-of-sale promotional matter.

This equipment provides great scope in the way of lay-out and colour design. Colour undoubtedly is a powerful attraction, but, like everything in this world, its fullest advantages are reaped only when it is properly used. Colour, when wrongly used on a showcard or other display piece, can, by the eye-confusion it causes, defeat the object for which it was employed.

To help display men in this matter of colour selection a series of exhaustive tests have been carried out by M. Maurice Boigey and published in *Courier du Livre*. The results of these tests, in their order of effectiveness, are reproduced in the panel.

It is curious that black on white, the combination that most people would say was most legible, is graded sixth, and white on black as low as tenth.

Colour combinations in order of their legibility

1. Black on yellow.
2. Green on white.
3. Red on white.
4. Blue on white.
5. White on blue.
6. Black on white.
7. Yellow on black.
8. White on red.
9. White on green.
10. White on black.
11. Red on yellow.
12. Green on red.
13. Red on green.

These results apply to lettering, but the principle holds good also for design. Because it is the WORDING, however, rather than pictorial design that in most cases puts over the real kernel of the selling message, it is important that legibility of this factor should be given first attention

●

Storekeepers as Salesmen

Raise Profits

A WELL-KNOWN motor-car manufacturing company has added some thousands of men to their sales staff as a result of a policy of turning retailers' storekeepers into salesmen. Instead of these men remaining mere "bin tenders" they have become salesmen of spare parts.

Spare parts service is a long-established department of the motor trade. Every dealer operates in some measure a service of this type, but the trouble has been to make it a profitable undertaking.

The scheme started with district "get together" meetings where the company discussed with local dealers ways and means of merchandising spare parts. The company's representatives explained to dealers the spare parts service from the manufacturer's viewpoint and discussed it from the retailer's angle. This developed interest in the scheme and brought out useful points about selling the products.

Following up the interest aroused by the meetings, the company provided a two-day course of instruction for their dealers' storekeepers. Subjects covered were: Keeping stock and sales records; stocktaking; ordering; displaying parts to increase sales; general problems.

Linked up with this intensive course was the use of a model spare part department built at the factory. Here the storekeepers were able to see just how the department should work when equipped with up-to-date steel bins, display stands, counters, parts and accessories for demonstration, stock records and sales systems. On their return storekeepers were encouraged to develop their own departments along similar lines.

Although it is too early yet to assess full results, sales of spare parts have increased by over 15 per cent in the past three months, and many dealers report that their spare parts departments are now showing a good profit.

TEMPERATURE CONTROL by MAGNETIC VALVES

In office

or factory

is an essential factor of EFFICIENCY

★ Write for the book "Temperature Control for all purposes."

THE MAGNETIC VALVE CO. LTD

BUSH HOUSE W.C.2. PHONE TEMPLE BAR 7777

Facts and Ideas for Advertisers that you can Use with Profit

IF you could gather for yourself all the latest news, developments, and the most successful plans in the advertising field, and those selling methods proved soundest in selling practice—

How much would it be worth to you?

Pounds and Pounds! For it would help you to get more out of your advertising and to increase your turnover and profits. But the cost, if you did it yourself, would be prohibitive.

Here is a way you can do it for less than a penny a day.

For in the pages of the ADVERTISER'S WEEKLY there comes to your desk every Thursday just such a complete report as you could wish for, on the most recent news and developments in advertising and selling and in the latest ideas in Press, Poster, Direct-Mail, Outdoor, Sign, Film, Novelty and every other branch of advertising. In addition, you also get Marketing Surveys both regional and overseas, which show you the sales possibilities and facilities in all the markets covered.

To secure all these sales and advertising ideas, facts and data regularly every week, you need simply order your newsagent to deliver "ADVERTISER'S WEEKLY" every Thursday morning. Or, if you prefer, first send a post card for a specimen copy TO-DAY to the Publishers:—

Advertiser's Weekly

BUSINESS PUBLICATIONS LTD., Dept. B.J.
WHITEFRIARS HOUSE, TALLIS ST., LONDON, E.C.4

Modern Equipment Puts This Firm's Profits 20 Per Cent Ahead of Rivals

by
CEDRIC E. DAY

WHEN a firm in a highly competitive business can keep its net profit volume 20 per cent or more ahead of rivals with a similar size and capacity plant there is always sound reason for this supremacy.

In the case of a certain Wolverhampton firm making a specialized electrical product the reason is: up-to-date and planned method.

This firm's products are acknowledged to be the best of their kind, yet they sell at lower prices than those of their keenest competitors.

Partitions that Enable Quick and Easy Changes

The source of this success is in the factory. Top-line efficiency is found there in every detail. Even such small points as individual lighting of work benches and the colour and quality of paint on the walls has been studied. The paint, for example, is of a cream tone, just the right shade to help maintain "balanced" illumination. It is washable and easy to keep clean. Sound-proofing of walls, use of flooring that reduces noise and employment of steel and glass shelving and partitions that can quickly and cheaply be adjusted to current needs are typical instances of the equipment in use.

Right from the first drawings of the architect every detail of the set-up has been planned. The building is divided one-third for office, two-thirds for factory. The directors' and managerial offices, the general and the drawing office, together with conference and rest-rooms, form a block in the building. They are divided from the works by sound-proof walls.

Each office is planned for its purpose, and the whole block is so constructed that passage to and from any one room or section can be made without interfering with or disturbing the staff. The drawing office, for example, is placed in the northern end of the block. Instead of the normal brick and concrete walls it has large north-light windows of opal glass. Thus the draughtsmen are undisturbed by the scurry of general office work and enjoy the best working light all day long.

The reception-room for callers is placed immediately inside the main entrance doors, to the left. Next to it is the inquiry office so that no callers need to pass through the second set of entrance doors into the inner part of the offices.

The main office and files department are in one large room as the two departments naturally work closely together throughout the day. Secretaries to active directors are placed in a common office immediately across the passage to the managerial rooms. This gives them all a short-cut route to the executives.

The works manager's private office is the last of the block and, therefore, nearest the workshop. There are only two places where the works manager can be—in the shops or in his office.

Sequence of Work Determined This Lay-out

Work in the factory consists of assembly of components. Manufacture of parts is done on contract.

Benches are erected to allow three-feet gangways between them. As the workmen stand at their job this gives ample freedom of movement for all.

The complicated electrical control equipment made is a type that is normally an "individual" job. This firm, however, has standardized the components so that units can be built up in a specified range of sizes.

Now this standardization has made possible the use of standardized assembly tools, a big saving in costs. The most notable instance is the two types of rests fitted to the benches for each man's use. On these rests can be fixed, as though held by a vice, all the frames upon which the units in production are assembled.

The two types of rests are exactly similar in appearance, the difference being in size. Furthermore, each bench is planned for a sequence of work so that a complete unit of equipment is assembled, checked, tested and passed on each bench.

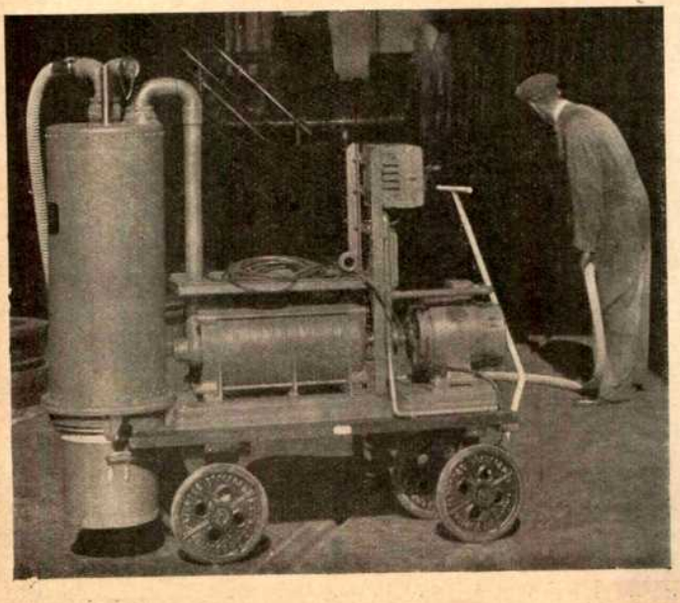
Insurance Costs Cut 20% By Fireproofing

The factory building is constructed of steel, concrete and brick facing—practically fireproof. The floor of the workshop is of solid concrete. Steel and metal equipment and fittings are in general use. These include metal office desks, steel files and cabinets. Such safeguards have cut fire insurance costs by nearly 20 per cent of usual rates. Inflammable component parts are kept in the centre of the factory in steel containers which are central to all work benches. Supplies are, therefore, always on hand. There is also a wide belt of free space around the stores. Any fire that did break out could be isolated easily.

Hot, Cold Water Available in Factory

Cloakrooms, lavatories and wash-basins, with hot and cold running water, first-aid equipment, etc., are provided for the workmen at one end of the factory. These conveniences are in the factory building so the men do not waste time nor have the discomfort of running out of the workshop and up or down stairs.

Does Your Factory Get Really *Cleaned?*



Dust menaces the health of workers because it is a germ carrier. Old hand-cleaning methods mostly succeed in stirring up dust, thus helping to spread germs. Modern equipment, such as the portable vacuum cleaner shown here, is highly efficient in removing dust. This reduces chances of such illnesses as colds and 'flu sweeping through your staff. It means that you get your factory really cleaned, which helps in getting longer efficient life from plant and equipment and protects stocks from deterioration

A.R.P. Is YOUR Defence Against . . .

Any Structural Work Delay Should Not Be Allowed to Hold Back Staff Training

IT has been *officially* decided that protection of business staffs is the responsibility of employers, therefore A.R.P. work is now the concern of directors of all firms. This means consideration of more than the provision of shelters. It calls for special internal A.R.P. organization and training of staff, collaboration with local authorities and long-term planning. It constitutes a problem and a job for the top executives.

The important point now is to make an *immediate* start on A.R.P. work. Schemes that involve turning basements into shelters or call for construction of special shelters in factory grounds or elsewhere must, necessarily, take some time. Decisions on such work may be difficult to make, especially if the costs involved are high. The right policy to be adopted needs careful thinking out.

The question is made all the more difficult by present tax position. A.R.P. measures are counted as improvements to property, and, therefore, no allowance is made. This means, for example, that if a firm makes a gross profit of £1,000 and spends £250 on constructing air-raid shelters for the staff, tax is still paid on the full £1,000. For this reason many firms are not taking active steps to get on with defence measures. They are waiting until the tax position is cleared up.

While there is some justification for this attitude it should not be an excuse to do nothing. A vast amount of preliminary work can be put in hand, work that must eventually be done. The first step, for instance, should be to discuss your particular problem with a technical expert. It is useless to expect the public A.R.P. officials to devote sufficient time to your problem. They are too busy with their community work and can only give the minimum of co-operation to you.

A number of companies which are specializing in A.R.P. work can supply you with technical knowledge and sound advice. As we pointed out last month, Woodward & Co. (Finsbury), Ltd., are now giving a free service of this type under the management of Mr. F. C. Hibberd, one of the firm's directors. Readers of BUSINESS are invited to take advantage of this service.

Part of the vital work that should be done at once is that of staff training. Unless your employees are disciplined and instructed in precisely what to do when an air raid is in progress all other work may be useless. The point is this: technical experts know exactly the kind of danger to guard against when high explosive, incendiary and gas bombs are dropped. Adequate precautions can be taken. The greatest risk that remains is that of panic among the people. This can be guarded against in your factory by organizing and drilling now all your workpeople.

The importance of this work cannot be over-stressed. The Home Secretary recently pointed out that while 1,000,000 volunteers were needed for public service an equal number were wanted for A.R.P. work in offices and factories.

Selection of "leaders" is the first task. These people must be steady and reliable persons of either sex. They must be trusted by their fellow employees. They must not (*a*) be young men who will likely be called to the colours in case of war or (*b*) hold posts as wardens or other officials in the public service. They must, of course, be available on the spot when emergency arises.

The duty of selected leaders is to learn all they can about the dangers to be met and the methods to combat them. Under direction they must teach and organize the staff generally.

Leaders must be trained for emergency duties of these kinds: (1) look-out men; (2) wardens; (3) fire pickets; (4) first-aid workers; (5) rescue squads; (6) decontamination squads.

During war-time at least one look-out man will be on duty, probably on the roof of the building. His or her duty will be to give notice of a raid as soon as the general warning is sounded. This is necessary, because of the noise and preoccupation of normal work in factories. Quite possibly the public siren or other general warning might not be heard.

Wardens, who, in training, act as instructors, are the persons to marshal and lead the workers by a pre-arranged route to the refuges allotted. In factories of more than one floor two wardens to each floor are usually necessary. There should, in any case, always be a deputy to each warden. In single-storied works organization should be clearly defined for all wardens concerned, so that there is no entanglement of commands in a crisis.

Fire pickets are trained to deal with incendiary bombs and fires resulting from them. These pickets remain on duty after general evacuation of the factory. Protection from explosion is provided the pickets by means of sand-bag, concrete or other types of shelters placed at strategic points in the building.

Special first-aid instruction about gas poisoning and contamination is part of the general instruction given first-aid workers.

For rescue squads men used to heavy manual labour are needed. They must be trained in A.R.P. measures and provided with tools, etc., which are needed for the rescue of persons buried under debris, and so on. Rescue squads must, of course, work in close co-operation with first-aid squads.

Decontamination squads must be composed of able-bodied men trained to deal with portions of the factory, office or other building which might be contaminated by persistent gas in liquid form.

Now these six categories of specialized bodies of men and women present a formidable task of organization, especially if that organization is to work smoothly in an air raid. That is why it is necessary for you to get ahead now on the job of staff training. All the staff involved in this work will need "Civilian Duty Pattern" respirators, general accessories and protective clothing.

Here Is *Free* Technical Advice For You About Emergency Lighting Plant

FREE advice on the need for and use of self-contained emergency electric generating sets for factories and other business premises is now being given by a famous firm of manufacturers of electrical goods. This company has formed a special department, composed of technicians of wide electrical experience, to provide the service.

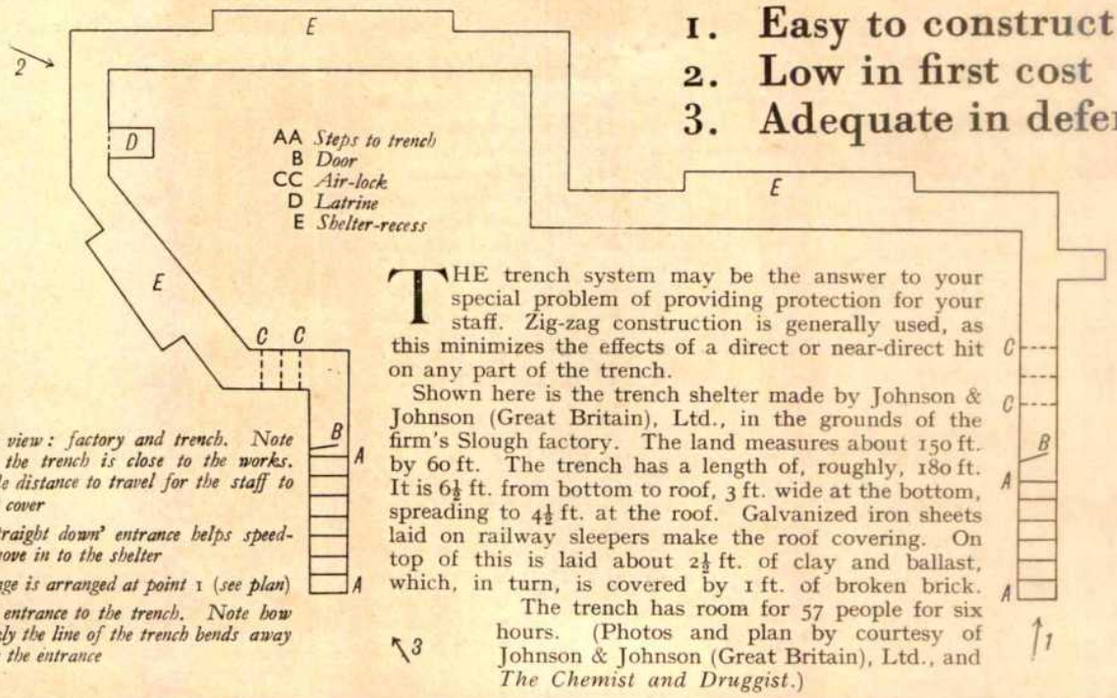
The reason behind the service is the need for individual emergency lighting plants as part of A.R. Precautions. It is readily admitted that, in the event of hostilities, central electricity supply stations would become objects of immediate attack by an enemy. Success in destroying such a station would not only lead to loss of life but to widespread disorganization of factories. If, on the other hand, business and other premises were equipped with emergency supply plants which automatically switched on when the public supply failed, dangers of confusion would be minimized. The situation in this respect is quite clear.

But a matter to be made clear is this: What type of emergency lighting plant do you need? There are to-day many simple and sound systems of illumination which might be suitable for your purposes, but it needs a technician to determine which is the most useful and economical in your case. To give this advice free and without obligation is the function of the service department set up by the company to which I have referred. Readers of BUSINESS are invited to take advantage of this offer.

War on YOUR Factory Plant and Staff

The Trench System is—

1. **Easy to construct**
2. **Low in first cost**
3. **Adequate in defence**

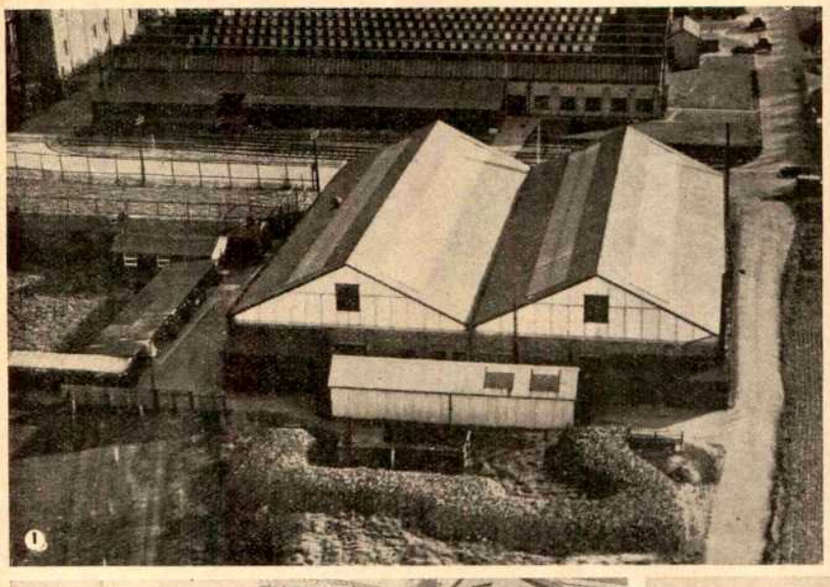


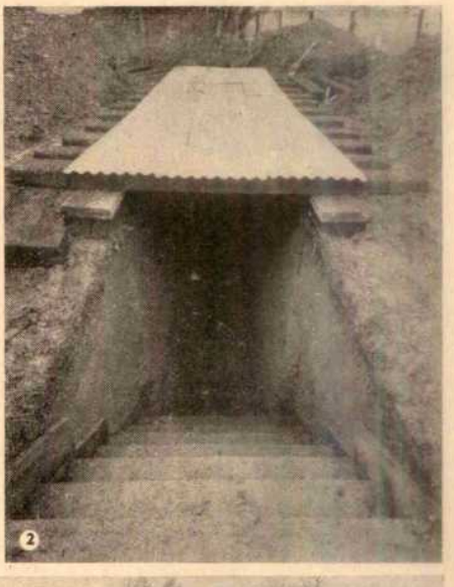
1. *Aerial view: factory and trench. Note that the trench is close to the works. Little distance to travel for the staff to reach cover*
2. *The 'straight down' entrance helps speed-up move in to the shelter*
3. *Drainage is arranged at point* 1 *(see plan)*
4. *Second entrance to the trench. Note how quickly the line of the trench bends away from the entrance*

THE trench system may be the answer to your special problem of providing protection for your staff. Zig-zag construction is generally used, as this minimizes the effects of a direct or near-direct hit on any part of the trench.

Shown here is the trench shelter made by Johnson & Johnson (Great Britain), Ltd., in the grounds of the firm's Slough factory. The land measures about 150 ft. by 60 ft. The trench has a length of, roughly, 180 ft. It is 6½ ft. from bottom to roof, 3 ft. wide at the bottom, spreading to 4½ ft. at the roof. Galvanized iron sheets laid on railway sleepers make the roof covering. On top of this is laid about 2½ ft. of clay and ballast, which, in turn, is covered by 1 ft. of broken brick.

The trench has room for 57 people for six hours. (Photos and plan by courtesy of Johnson & Johnson (Great Britain), Ltd., and *The Chemist and Druggist*.)





What To Do About this Factory Act. *Fourth Article*

The *Welfare* of Your Workpeople

By H. SAMUELS

Author of "Law Relating to Industry," "Law Relating to Shops," "Factories Act, 1937," etc.

WASHING

SEATING

FIRST AID

IN industry one of the outstanding developments of the last quarter of a century has been that of industrial welfare. It is not surprising, therefore, that this should be marked by the new Factories Act. Here, "Welfare" appears as a new heading under which a number of fresh requirements are grouped.

What are these new requirements? Factory employers generally are obliged to provide:

(*a*) washing facilities;
(*b*) accommodation for clothing;
(*c*) seats for females.

Of course, some factories are already under these obligations. The difference in the position before and after the Act takes effect is this—that whereas hitherto it required a special Home Office Order to bring a factory *within* an obligation of this kind, from now on such an Order will be required to *exempt* a factory from what is henceforth a general obligation.

The employer has been given an extra year's breathing space to comply with the new duties as to washing facilities—that is to say, the Act does not require these to be provided till 1st July, 1939. But the accommodation for clothing must be provided by 1st July next, and if your factory handles poisonous substances like lead or arsenic, the washing facilities as well.

Now employers are placed in a difficulty here, which I cannot think was present to the minds of those who framed this Act.

The Home Secretary is given power to prescribe the standard for washing facilities and accommodation for clothing—and this standard has not been prescribed. If employers now take steps as required by the Act, they run the risk of finding that the arrangements they have made are not up to the Home Office standard.

On the other hand, if they wait for the Home Office to prescribe the standard, they run the risk of being prosecuted. An employer could hardly be regarded under these circumstances as acting unreasonably if he made up his mind to wait till the Home Office standard was published rather than embark upon costly structural alterations only to find later that the expenditure has been sheer waste, and that entirely different alterations are required.

Included in the facilities for washing must be a free supply of soap and clean towels (or substitutes which are equally effective). The employer is bound to see that the workers have easy access to the washing places and that the latter are always kept in a clean state.

As regards accommodation for workers' clothing, this must include drying facilities. As indicated above, it remains to be seen whether, or in what cases, the Home Secretary will require separate cloakrooms to be provided.

Seating Accommodation For Females

How many seats have to be provided? Unlike the analogous provisions for women shop assistants which prescribes one seat for three assistants, the Factories Act merely says that the factory employer must provide suitable facilities for sitting, sufficient to enable the women workers to take advantage of any opportunities for resting which may occur in the course of their employment.

It is curious, too, that even the Home Secretary is not empowered to prescribe the *number* of seats. So that it is left to the employer to make the best provision he can, and woe betide the hapless employer if the Factory Inspector happens to enter and to find a woman standing about because there is no seat available!

If the machines are fitted with seats there is no reason to think that the latter would not comply with the requirements.

There is an important new requirement in first aid arrangements. If you employ more than 50 workpeople, every first aid box must be in the charge of a person trained in first aid.

New Ruling In Regard To First Aid

What is meant by the latter phrase? The Act lays down no standard of training, no V.A.D. qualification or recognized diploma. Here again the burden is laid upon the employer to satisfy himself, and eventually in case of dispute a Court, that the person in charge had had sufficient training. And the requirement applies even at those periods of the day or night in which you may be only partly staffed, and less than 50 persons are actually at work.

Nor is it sufficient for your trained person—your factory nurse—to take general responsibility and leave the actual keeping of the individual boxes to untrained persons. That practice would only be legitimate if the nurse were herself the person in charge of each first aid box and were herself always readily available to the workers in all the departments.

Here let the factory worker be reminded of the important obligation which has now been placed for the first time on him to make use of these first aid arrangements; he can be prosecuted if he does not.

Another new departure is the prohibition of excessive loads. An employer may not allow a person under eighteen to lift or move a load so heavy as to be injurious to his or her health. Hitherto the woollen trade was the only one in which such a ban has operated.

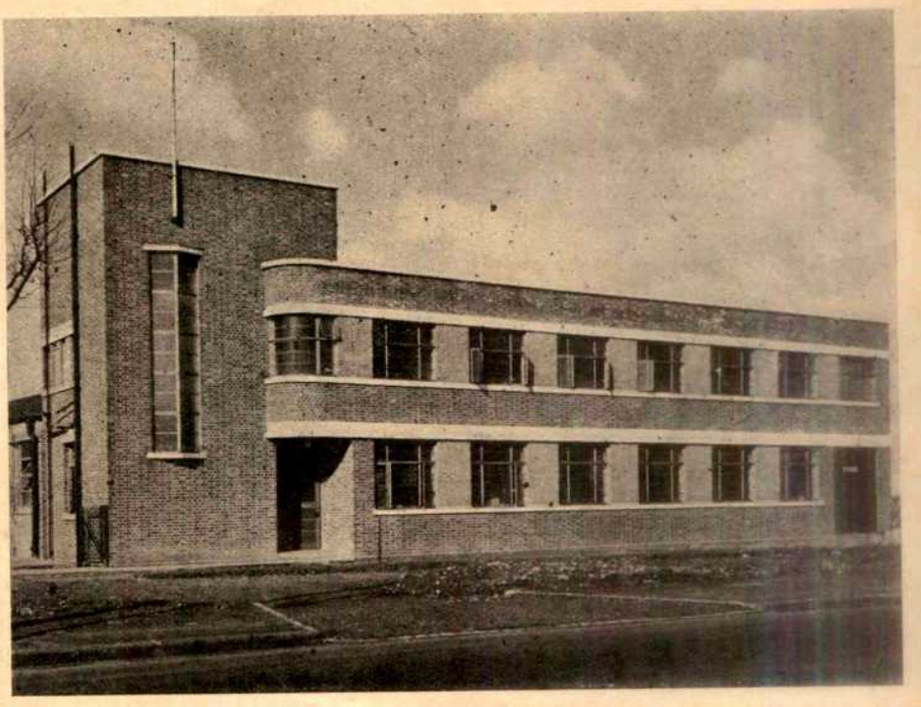
This is a Tamper-Proof Form of Marking and Recording

THE use of perforating as a tamper-proof method of marking documents is generally considered to have a very limited application. Actually, however, this method of marking can be used very widely indeed.

For dating all kinds of coupons, vouchers, requisitions, receipts, petty-cash slips, etc., it provides a quick and secure method of identification. For numbering documents, indexes, films, photographs, sample materials, labels, specifications, important technical papers, etc., the system is equally useful. If desired, of course, perforated code symbols can be used.

A British company is marketing a line of perforating machines specially for this work. The firm is J. Sloper & Co., Ltd., 22 Budge Row, London, E.C.4. They will send you further information on request.

Move to a CS PLANNED FACTORY



The factory we recently erected for Messrs. Powers Accounting Machines Ltd.

An out-of-date factory, like worn machinery, is a serious drag on your business. Planned for obsolete methods of production, it cannot accommodate the highly efficient methods of to-day.

Move to a new scientifically planned factory and the first things you will notice are increased speed of output, reduction of overheads and improved health of your staff.

We offer you a complete service. A service including the provision of a suitable site in any of the industrial zones around London, a scientific analysis of the requirements of your particular industry and the construction of a factory that will considerably increase your speed of output and reduce your overheads to an absolute minimum.

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Over 250 firms in the London area are manufacturing more efficiently in CS PLANNED FACTORIES

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Ban on Running Inside Factory Reduces Accident Rate

WITH the new Factory Act coming into force and containing so many provisions for improving the safety of workers, many manufacturers are finding that a new function for their Works Committee is to study "safety first" methods.

Every Accident Investigated At Once

One well-known firm has had its committee busy on this problem for the past six months. Every accident that has happened has been investigated on the spot and a report drawn up. The reasons for the accident are detailed together with ways and means of preventing similar accidents happening again. Many recommendations have been made and put into effect. An interesting example is the prohibition of running inside the factory building. This simple measure has been almost revolutionary. The custom has always been, on the sounding of the buzzer for the lunch-time break and on other occasions, for the staff to rush out of the building.

There are few factories where this kind of rush does not occur daily, often with the result that some person is injured. Indeed, minor accidents are quite frequent. Since the firm concerned imposed the ban on rushing there has been a noticeable decline in small accidents in the factory.

Economic Storage? Try Steel Shelving

THE growth in the use of steel shelving in factories and offices is evidence of its efficiency and economy yet there are many firms that still stick to old-fashioned wood fittings of this type. In keeping outdated kinds of shelving firms pay heavily in many ways.

As compared with modern steel shelving, for example, the wood type take up on average 20 per cent of the available space. If, therefore, you have a storage composed of 5,000 wooden compartments the wood itself takes up a space equal to 1,000 compartments.

This is a serious factor for most manufacturers. But there are other points of advantage about the new steel shelving: (1) its initial cost is less than that of good quality, painted wood; (2) it is hygienic, easy to keep clean; (3) flexibility and resistance to rot, fire, damp, vermin make it a permanent fixture.

There are three main components to steel shelving—posts, shelves, and bracings. Yet unskilled labour, with the aid of a screwdriver and hammer, can erect the fittings in a number of ways. It can be built up, taken down and built up time and again to meet any special needs. By means of "pres-snap" fasteners compartments can be adjusted to the necessary size to take the stock concerned. Adjustment is a matter of a few moments' work.

New Cheap Boiler Control Increases Efficiency

A NEW method of electric boiler control, claimed to be cheaper and more simple than any developed hitherto, is now being used by a London firm of heating equipment manufacturers.

The method is designed to dispense with the automatic circuit breaker or contactor. When the controlling thermostat or time-switch operates, the control mechanism reduces the boiler load to almost zero. The amount of current then passing is negligible. In a 200-kw. boiler it is about 3 amps. If a fault develops in the load control mechanism a small relay operates the trip of the main hand-operated breaker. This also can give an alarm.

In the old system, the normal operation of the control thermostat or time-switch is to operate the load control mechanism and reduce the load by about 20 per cent. Then an automatic switch disconnects the supply.

This method needs a contactor or automatic oil circuit breaker, an expensive piece of equipment that needs a good deal of attention from time to time. The new method is more simple, cheaper, and more efficient.

These Tunnels Cut Costs In Servicing Supply Lines

A NEW idea in factory construction is to have all service lines such as electric cables, gas, hydraulic power and other water pipes, drains, sewers, and so on, approachable through small tunnels or culverts. This saves time and costs which are now often wasted when repairs are needed. The necessity to dig trenches and to throw up other obstructions across works' approach roads and elsewhere is eliminated by the new method.

Big Enough For Man To Pass Through

The concrete tunnel or culvert needed may be big enough only to allow a man to walk or creep through. The cost of constructing such a "service artery" is economical in itself as compared with the separate laying of all the service lines. And, of course, the savings effected ultimately are enough to pay for the work many times over.

Many other favourable factors are found in this method. Pipes, for example, can be more easily and better protected from damage. Steam-pipes can be insulated efficiently, thus reducing heat losses. Costly and unproductive searches for leaks in any service line can be eliminated.

Idea Extension of Public Service System

The idea is, actually, an extension of that which has been used with success for servicing drains and sewers. It is only recently that the principle has been recognized as useful for factory service lines.

Music In Factory Stimulates Output, Offsets Fatigue

INCREASES in production have been obtained by many manufacturers who have introduced music as a tonic for workers during the "fatigue hours" of the day—that is, during the last hour of the morning and the final hour of the afternoon. Good results have been obtained in a wide variety of factory work.

One of the latest firms to take this new industrial idea is Meltis, Ltd. Programmes of light music are being broadcast for three-quarters of an hour late morning and late afternoon.

The innovation is very popular with the hundreds of girls who are employed at the factory. The rhythm of latest dance tunes and songs gets the girls singing at their work. From one end of the conveyor belt to the other the workers pick up the rhythms. Results show that where, normally, the monotony of work began to affect the workpeople, music brings them fresh stimulation and a forgetfulness of dragging minutes while production goes on at normal speeds, swiftly and efficiently.

Music is supplied through a radiogram and amplified in keeping with the size and shape of the rooms serviced. In one large shop, for instance, a dozen amplifiers are used; in a smaller section, half a dozen loudspeakers give the right amount of volume. Records as well as broadcast programmes are used.

There are several firms to-day that provide a "music background" in machine-rooms. Although workers may not be able to hear clearly above the roar of machines the words and tunes broadcast, sufficient volume is provided to form a background of tune which meets the need. This arrangement is also very popular with staffs.

Equipment for "music in factories" is now being made by several well-known manufacturing firms that have specialized in this field.

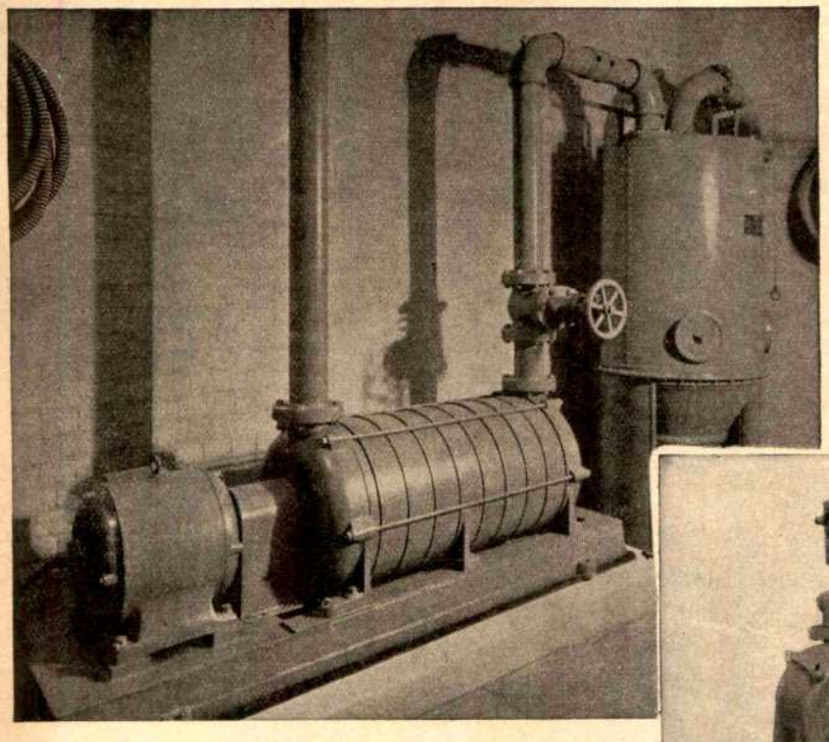
DUST REMOVAL

In Factories and Offices!

DOES THE FACTORY ACT (1938) AFFECT YOU?

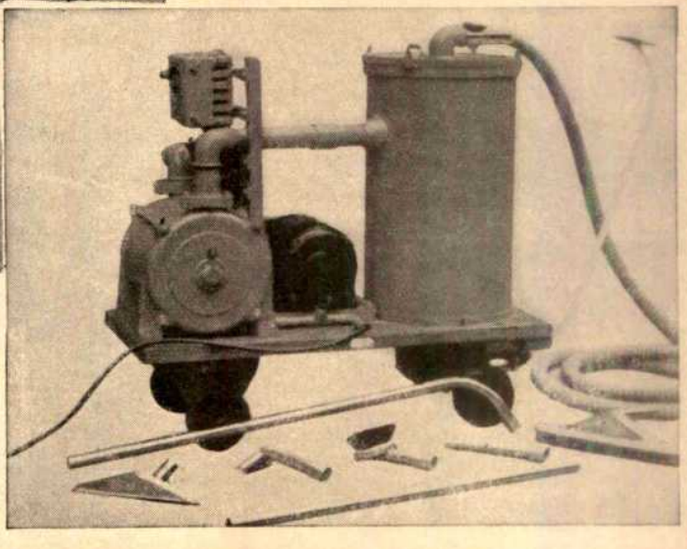
Although the new Factories Act brings the official attention of the Government to the elimination of superfluous dust in Factories and Offices, the need for such health safeguarding precautions has for long had the attention of a great many executives concerned. The British Vacuum Cleaner & Engineering Co. Ltd., the original Pioneers of Vacuum Cleaning since the year 1901, have an amazing amount of evidence to show how manufacturers and other employers of labour have become the users of the well-known B.V.C. Industrial Vacuum Cleaning Plants. B.V.C. Cleaners are to-day installed in the Houses of Parliament, G.P.O. Telephone Exchanges throughout the country, L.C.C. County Hall, Thames House, Southern Railway Carriage Cleaning Sheds, the Garages of the L.P.T.B., the principal Power Stations, countless Cinemas and Theatres, Technical Colleges and Schools, Civic Halls ; and Industrial Works and Factories everywhere. And, above all Competitors, B.V.C. Cleaners have had the honour of being selected for use in the Royal Navy. However difficult your Dust Removal problem may be, it can be solved in the most efficient and economical manner possible by one of the many types of B.V.C. Vacuum Cleaning Installations which are available.

THE ADVICE OF THE B.V.C. EXPERTS IS AVAILABLE TO ALL



B.V.C

VACUUM CLEANING INSTALLATIONS



Above : Plant for Central Vacuum Cleaning Installation for Factories, Institutions and Offices.

Right : Portable Industrial Vacuum Cleaning Equipment.

Whatever your Vacuum Cleaning requirements may be, consult The British Vacuum Cleaner & Engineering Co. Ltd. (Dept. B2), London, S.W.6. Telephone: FULham 3333.

There's a B.V.C. Installation for every Industrial Purpose

Output Up, Costs Down, As These Machines Cut Time and Labour

CUTS in costs, time and labour are being made by John Bull Rubber Co., Leicester, by means of automatic tyre vulcanizing presses. The company recently installed a battery of these double-deck robot presses at their Evington Valley Mills.

Spoilage and losses resulting from errors in judgment have been almost eliminated as the new machines operate nearly 100 per cent automatically. A pull on a lever hydraulically closes the presses after new, unvulcanized tyres are placed in position. When the presses close, air bags in the tyres are automatically inflated. At the same time steam is admitted and a master clock starts. A chart of the temperature is automatically printed, and the time taken by the cure is recorded.

Press operators are automatically warned by a red light when the cure is complete. Automatically, too, steam is shut off, air released from the bags, the presses open, and each tyre is ejected from its mould.

This is a good example of modern management's policy of looking to plant, lay-out and planning for economies. Not only do these new machines save money, time and labour and cut down waste but output is greatly increased.

Bonus Scheme Increased

Efficiency in all Departments of this Factory

A SMALL manufacturer at Reading has recently obtained all-round improvement in efficiency by introducing a bonus scheme. For output above a stated figure, all foremen and operatives receive a 1½ per cent bonus on value of production. But to guard against bad and hurried workmanship, all faulty goods are charged against responsible departments to double their production value.

The effects of this scheme have been many. Both foremen and men, for instance, are anxious not to have employed workers who do not pull their weight. No foreman will take on a man unless he is really needed. Again, the men, instead of merely taking orders, now think about them. They study ways and means of shortening the work. There is, too, good-hearted co-operation between individuals and departments, each anxious to see that nothing impedes production.

No Pilfering Now In This Factory

One of the least expected outcomes of the scheme is the suppression of pilfering. The firm has now keen eyes in all parts of the works and waste from pilfering and other causes has been reduced to a minimum.

Incidentally, output has been increased by 6 per cent.

Have You Got 'Flow' or '*Intermittent*' Production at Your Works?

ALTHOUGH flow production methods are now widely known and practised, there are still many factories where the problem of uninterrupted production has not been solved. Very often the firms concerned are not aware of the unproductive costs which are involved. This is particularly true of handling costs which are frequently hidden in group costing, and they are a good example of the need for detailed analysis of every "time unit".

Recently a manufacturer of motor components showed us how he had made a saving of roughly £1,700 a year by building concrete loading-decks and ramps and carrying out several other similarly simple improvements. This new equipment all facilitated the handling of materials or finished products. It reduced the time-lag between processes throughout the works. It was the part of his continuous system which had been missing, a part which had reduced his "flow" to "intermittent" production. Thus, he had not only lost time at various handling points but had automatically slowed up all processes.

This is an angle of factory management which is well worth checking even if you believe you have flow production.

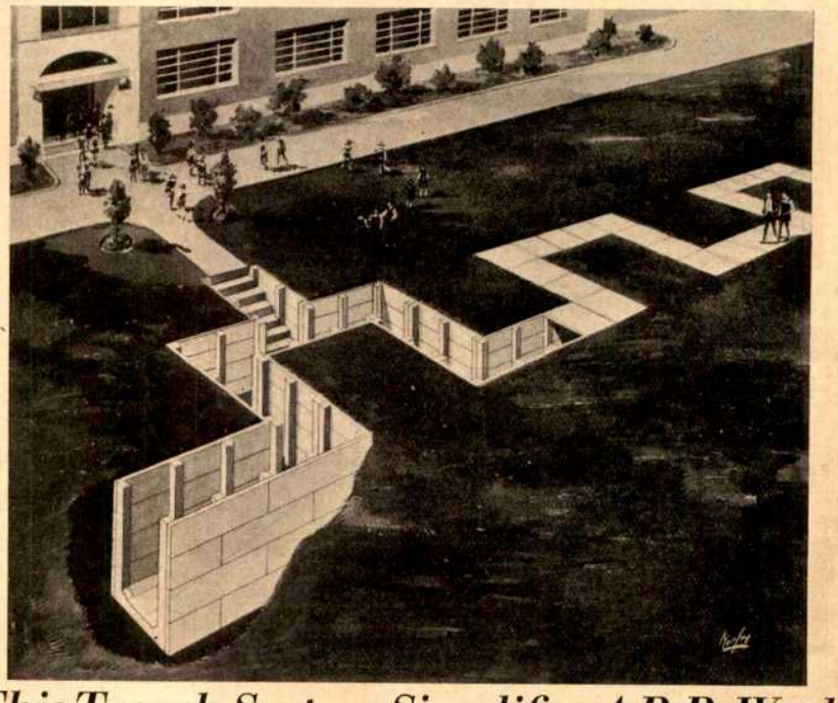
New Building Methods Cut Capital Costs 20 Per Cent

NEW methods and materials used in building to-day have made possible big savings in capital costs. Some firms have been able to cut down expenses by 20 per cent in the construction of new factories.

The biggest single saving effected is in the cost of land. In the past it has been necessary to buy sites of high-bearing capacity to take heavy factories, therefore the cost of land has always been of primary importance in expansion schemes of this kind. To-day, by means of concrete raft foundations, it is safe to build on land of low-bearing capacity. Such land is usually much cheaper than the "good building" type.

One firm, which recently built a factory in Essex, saved over £1,000 by using the raft method. Actually, they designed the new building to have big basement storage and boiler-rooms. To meet this need the raft foundation was designed as a box-like structure which, besides its other functions, served to give extra strength and support to the building.

Even very bad ground can be made fit to build upon to-day.

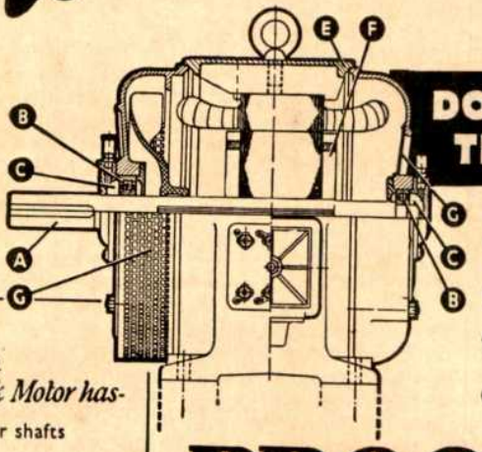


This Trench System Simplifies A.R.P. Work

Simple but adequate form of air raid shelter is the trench system illustrated here and on page 35. Trenches should be 7 ft. deep and passage-ways 2 ft. wide according to Home Office recommendations. This illustration shows a concrete-lined trench, easy to construct, imperishable and costing nothing in upkeep

Daily Mail
FOR KING AND EMPIRE
FRIDAY, APRIL 22, 1938.

Are YOUR electric motors out of date?



DO THEY COMPLY WITH THE FACTORIES ACT 1937?

Only five per cent. of the electric motors in this country comply fully with the above Act, which comes into operation in July 1938.

A modern Brook Motor has-

- **A** Stronger shafts
- **B** Ball and Roller Bearings
- **C** Increased grease storage
- **D** Higher Electrical Efficiency
- **E** Greater Mechanical Strength
- **F** Dynamic balance of all rotating parts
- **G** **Full compliance with the Factories Act, 1937**

BROOK MOTORS LTD. Offer —

to bring your motors up-to-date at reduced cost, by exchanging obsolete motors for new and modern machines at a discount varying up to a maximum of

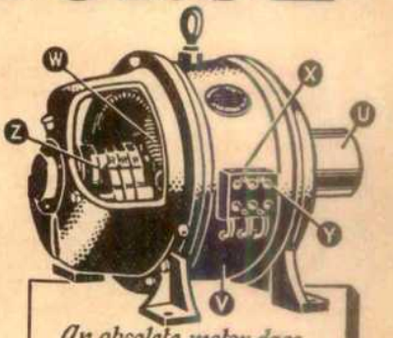
50% DISCOUNT

on the price of new motors dependent upon the age of the present machines. The **condition and make** of the existing machines do not matter.

THE FACTORIES ACT OF 1937 (Part II, Section 12) demands **that all rotating parts of electric motors shall be fenced or screened so that it is not possible for any part of any person to come into contact with them.**

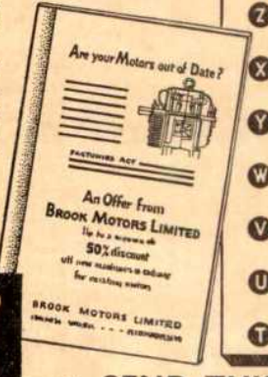
Do your present motors comply with this?

BROOK will bring your factory up-to-date with modern motors at reasonable cost, giving a new lease of life and allowing you to comply in full with the stringent regulations of the above Act.



An obsolete motor does not comply because-

- **Z** Revolving parts exposed both ends
- **X** Terminals exposed
- **Y** No conduit connections
- **W** Windings exposed
- **V** No earthing terminal
- **U** Protruding key
- **T** Gearing exposed



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TO **Brook Motors Ltd., Empress Works, Huddersfield.**

Please send me, without any obligation whatsoever, a copy of your booklet "Are Your Motors Out-of-date" which explains the new Act and gives details of your special offer.

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Address .....

.....

Factory Location is *Not* Limited by Labour

By a
'BUSINESS' INVESTIGATOR

INDUSTRY to-day is more free than ever before to locate where it will, for problems of labour, supplies services and distribution have undergone radical changes in the past ten years. Of these changes none has had more significant influence than that concerning labour.

Time was when the industrialist *had* to locate in certain districts if he intended to manufacture particular types of goods. The labour factor was mostly vital and always an important consideration. Take the time-worn example of textiles. Manufacture of wool and cotton goods was confined until recently to a few specific areas, the most notable of which were Yorkshire, Lancashire, the West of England and parts of Scotland. While it is true that climate, supplies and other factors were fundamental influences on the location of textile industries the development of armies of highly skilled workers in these areas assumed a dominating influence.

Not Essential To Limit Your Choice

To-day the position has changed. Textile factories are operating very successfully in the London area and in other parts of the country. In making this point I do not wish to imply that the recognized homes of textile industries no longer exist as such. They do. But conditions are such that it is no longer economically, technically, or for any other reason *essential*, to confine location of textile factories to the area mentioned.

The reasons for this are many, of which I need but mention two: (*a*) the mobility of industry to-day; (*b*) the spread of technical knowledge and skill among labour.

Mobility has been brought about by numerous developments. The obvious is that of transport, particularly road transport. It has relieved industry of the need to locate near a port or near a railway, although both these services may be essential and used extensively. It has made possible for management to draw labour from a wide area about the factory. It has encouraged workers to follow prosperity with greater ease, to go where there is work. The instances could be quoted by the dozen.

Mobility has been given industry, too, by such technical advances as that of conditioning factory atmosphere. For example, the degree of humidity needed in some textile work (found naturally in Lancashire's climate) can now be manufactured in a factory located anywhere.

The spread of knowledge of factory work has naturally followed the big development in transport. And the War, of course, that forcing-time of progress along so many lines, helped to increase the dispersement of skilled workers all over the country and to extend factory work among women. The post-War depressions, too, had an influence. Skilled persons left the established but hard-hit industrial areas to find work in other parts of the country. Cheap transport helped these migrations. A case in point is South Wales. In the past few years about 250,000 people have left the area, a great number of them persons skilled in iron and steel, shipbuilding and kindred industries. Similar migrations from Northern Ireland, Scotland, the North-east and the North-west of England to (chiefly) the Midlands and the South have taken place.

Most Centres Have Some Skilled Workers

Once started, the development of light industry in the southern part of the country naturally attracted skilled and semi-skilled labour from the older industrial centres. Thus a situation has developed where there is at present in most populous areas of Britain at least some people who are skilled in factory work. That is a big reason why such estates as those at Welwyn, Letchworth, Slough, the Thames-side, Wembley, Perrivale, and other outlying parts of London, as well as towns such as Luton, Bedford, Southampton, Reading and so on have become centres of successful

He won't be back for SEVEN YEARS...

★ ★

Factory interiors painted once every seven years with FEROX White for Factories conform with the requirements of the Factories Act, and the necessity of limewashing every fourteen months, with its attendant inconvenience and increase in cost of labour and materials, is obviated.

FEROX White for Factories can be brushed or sprayed over old distemper without fear of scaling. It gives an 'eggshell' finish which is washable, non-absorbent and hard wearing, and can be made glossy or matt by the addition of oil or turpentine respectively.

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ght industries. There are usually some killed or semi-skilled workers available form the nucleus of a staff; skilled en and women are attracted from dis- nt areas, and, with the general spread industrial knowledge, people to-day quickly trained to become compe- t operatives.

This view is supported by the facts of the case. In North London, for example, there is a foundry where castings in a special alloy are made. The managing director of the company told me that, before investigating the problem, the management were convinced they would have to go north to the areas where foundry work had been carried on for generations. A few inquiries, however, showed there was an abundance of the right type of labour in London—mostly northerners who had come south.

Industry Can Move To Country To-day

The instance is typical of scores to be found throughout the areas where industry was non-existent until the War period and later. Time and again I have been told this story, especially where firms have made radical changes in location, have moved, shall we say, from the heart of an industrial city to a country location.

Lest you misunderstand me, let me point out that this is not written to urge executives to move into unspoiled parts of the country. Far from it. But I do want to show that this question of labour does not, to-day, tie industry down to one spot. That outlook, which still influences many boards, is outdated. That is the point.

It may be that your best location would be in the very heart of the oldest established centre of your particular industry. That is a matter for you to decide upon the facts you have. Labour is, after all, only one factor which, although important, may not be in your case the most important. But it is as well to get a correct view of this question when you are discussing the pros and cons of a new location.

●

Big Economies Through New Acid-Resisting Metals

PATENT acid and corrosion-resisting alloys that can be forged, rolled into rods, bars, flats, sheets or wire and are excellent casting metals are now being produced by a Gateshead foundry. At the moment six different alloys are being produced.

All these metals are exceptionally strong and withstand shock as well as wear. They can be used for drawing into wire and for spinning with or without intermediate annealing. They can also be employed for screw making, drills, lathe tools, etc. They are produced, too, for use by the chemical, dyeing, glass, mining, railroad, motor-car, oil refining, petrol, coal carbonization, gas and marine engineering industries.

Planning SUCCESS?

SUCCESSFUL PLANNING of industrial enterprise is only possible if all the essential factors prevail. There are decided reasons why Lancashire became the birthplace of British industry and why to-day it continues to attract new enterprise.

Every possible facility exists in this Area to make manufacturing and distribution most economical.

- ▲ Britain's largest consuming market within a radius of 75 miles.
- ▲ Port accommodation for vessels of every type and tonnage.
- ▲ Skilled and adaptable labour for every type of industry.
- ▲ Sites in modern industrial and rural areas.
- ▲ Special financial terms for the establishment of new factories.
- ▲ Free water supplies and effluent facilities.
- ▲ Sites along 70 miles of inland deep-water frontage.
- ▲ Highly efficient public services.
- ▲ Transport facilities by road, rail, air and water.
- ▲ Spacious factories for rent or purchase at attractive prices.
- ▲ Planned industrial estates.

Many concerns have already realised the value of these advantages —why not investigate the possibilities?

Full information and expert advice will be given on confidential enquiry to:

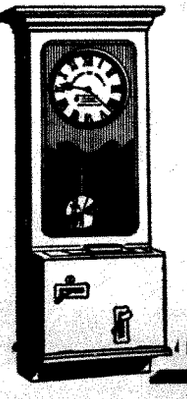
J. BENNETT STOREY, *General Manager,*

LANCASHIRE

INDUSTRIAL DEVELOPMENT COUNCIL

Ship Canal House, King Street, Manchester, 2

Preliminary information obtainable through the Travel & Industrial Development Association of Great Britain and Ireland, 29, Cockspur Street, London, S.W.1, British Empire Building, Rockefeller Center, New York, and 28, Avenue des Champs Elysees, Paris.



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TIME RECORDERS LTD.

38, EMPIRE WORKS, HUDDERSFIELD

MEASURING The Facts of Commercial Vehicle Performance

(*Continued from page* 17)

down without brake application. The resistance is read from the Performance Meter when the speed has dropped to 10 m.p.h. The normal figure for most vehicles is about 35 lb. per ton, but for heavy trucks it may be less. Results over 50 lb. per ton are abnormal and indicate high tractive resistance responsible for loss of pulling power, excessive wear and fuel wastage.

Hill-Climbing Performance

The Tapley revolving scale shows two sets of figures, those on the right determining road gradients and, on the left, the pull of the vehicle in lbs. per ton.

The maximum pull exerted by a vehicle determines the steepest gradient it could climb at a steady speed on the same gear ratio, and for every gradient there is a corresponding pull in lbs. per ton necessary to negotiate it.

If a truck is required to climb very steep hills in normal service facts will be wanted as to its maximum performance or maximum *pull*.

If a gradient of 1 in 3½ is included in any delivery route the meter attached to the vehicle for testing purposes should give a figure of about 650 lb. per ton as a minimum when bottom gear is in action.

If, however, there is no opportunity to test on a very steep hill where bottom gear is necessary the pull on that gear can be determined from the maximum on third or second gear by means of the Tapley Normal Performance Calculator, supplied with the instrument.

There are many other uses to which the Meter can be put, but the simple tests described above will tell the vehicle user all he wants to know about performance.

Brake Testing Decelerometer

Brake tests can be taken with the Performance Meter, but very high figures are involved, so it is more convenient to use the special Tapley Decelerometer which expresses brake performance as equivalent to a percentage of vehicle weight.

Theoretically, the brake action should produce a resistance of 2,240 lb. per ton, i.e., when it equals the vehicle weight, or 100 per cent efficiency. In practice there are several factors that upset the maximum theoretical efficiency, so if the tests give a figure of 50 per cent there is no cause for anxiety.

The Chrysler-Plymouth 15-cwt. Van Under Test

This model has special attractions for operators who want vehicles capable of very rapid acceleration between numerous stopping points. Its load capacity is 15 cwt., for which 123 cu. ft. are available.

Weighing little over 25 cwt. in full working order, this van comes within the £20 annual taxation class which, together with its initial cost of £215, is a really economical proposition.

Rated at 23.4 h.p., the 6-cylinder engine develops 66 b.h.p. and, although this power will produce speeds much in excess of those actually needed, it ensures fine performance on top gear and amazing acceleration.

Tests of maximum pull on top gear with the Tapley Meter gave 250 lb. per ton at 30 m.p.h. This equals that of high-powered touring cars and shows that gradients of 1 in 8.9 can be surmounted easily without changing gear.

When testing the brakes by the Tapley Decelerometer a corresponding value of retardation was noted, for at 30 m.p.h. full depression of the pedal operating the hydraulic brakes on all four wheels recorded a brake efficiency of 70 per cent.

For readers who prefer acceleration results in terms of split seconds, I took a few stop-watch readings: From a standing start on top gear the vehicle touched 30 m.p.h. in 22 1/5th seconds. Normal use of the gears revealed fine acceleration, the van took only 11 1/5th seconds to reach legal maximum speed. Further test showed that when travelling at 10 m.p.h. on top gear the speed could be increased to 30 m.p.h. in just 13 seconds.

Of very smart appearance and sound construction, this Chrysler-Plymouth makes a strong appeal to users who need vehicles of this type.

FACTS AT A GLANCE

Vehicle Tested: Chrysler-Plymouth 15-cwt. Delivery Van.
Makers: Dodge Brothers (Britain) Ltd., Kew, Surrey.
Capacity: 15 cwts.
Body Length: 15 ft. 1 in.
Wheelbase: 116 in.
Fuel Consumption: 23 m.p.g.
Pay-Load Ton Miles Per Gallon: 17·25.
Max. Gradient Climbed: 1 in 3½.
Annual Tax: £20.
Vehicle Price: £215.

More Specific Plan For Anti-Gas Training

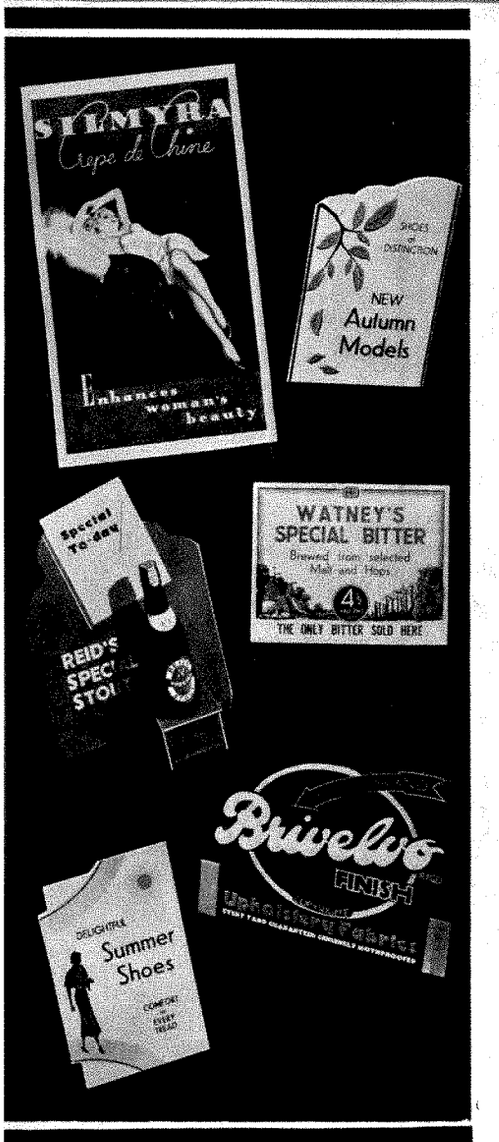
THERE is no question now about the need for definite training in anti-gas measures, but there is more than one way of getting this training out. While you can select your personnel and send them to lectures organized by your local authorities, you may find it more useful to have them instructed under such a free scheme as that provided by Woodward & Co. (Finsbury), Ltd. This 10-week instruction course, conducted by Farfield Gas School trained instructors, is given from the employers' point of view. It is therefore more helpful to business men, as it deals specifically with their problems. Your selected men can take the St. John Ambulance examination for the recognized A.R.P. certificate upon completing the course. Already 150 representatives of firms are attending the lectures. Although the lectures are now being held in London, they are to be given in all parts of the country. It is possible, too, to organize lectures to be held at your factory.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

JUNE, 1938



"... the advantage of being able to change my display matter to suit the Season at a moment's notice is a great economy over my old method of committing myself to so many thousands of cards which had to be used up in season or out"

says T. Pettigrew, of the Beverly Hills American Shirt Co.

22 ADDLE STREET, LONDON, E.C.2.
21st APRIL, 1938.

Messrs. Masson Seeley & Company, Ltd.,
Masseeley Building,
Howick Place,
WESTMINSTER, S.W.1.

Dear Sirs,

I feel sure you would like to hear of the great success of the Beverly Hills shirt, because I am convinced that no small measure of credit in my advertising campaign for putting this shirt before the public, must be passed to my Art department and the efficiency of your process.

We have been able to produce small or large quantities of showcards, etc., —as the occasion warranted—with great rapidity at very small cost, and the advantage of being able to change my display matter to suit the Season at a moment's notice is a great economy over my old method of committing myself to so many thousands of cards which had to be used up in season or out.

I am very glad to see that my cards are being well used by my customers, as I am almost as proud of them as I am of the Beverly Hills shirt itself.

The many attractive displays I have seen, I can assure you, have done us both great credit.

Yours faithfully,
For BEVERLY HILLS AMERICAN SHIRT CO.,
T. Pettigrew.

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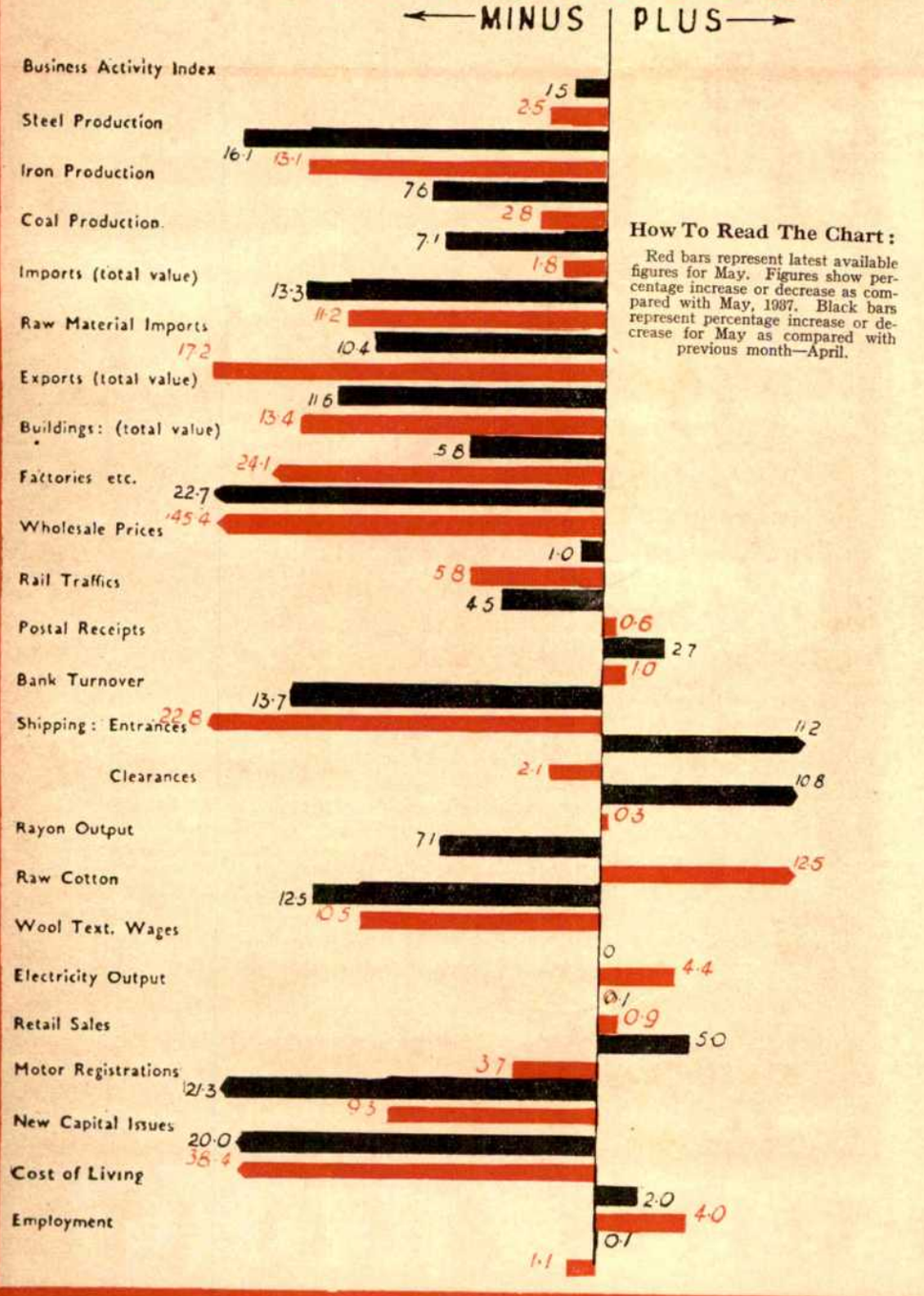
BUSINESS ACTIVITY FACTORS OF THE U·K

Key figures shown on bar chart this issue reveal effects of spring recession. If your business has shown a slight falling off, see the reason why by consulting these latest figures. Taking an all-round view, general business activity has declined by 2·5 per cent as compared with year ago and 1·5 per cent as compared with previous month. Which is not as bad as it might be nor as bad as some pessimists would make out.

Long-sighted economists take view that recession is salutary, that this check on minor scale has avoided a big slump at later date. Point now is to make your business activity rise above prevailing levels.

22 VITAL FACTORS



How To Read The Chart:

Red bars represent latest available figures for May. Figures show percentage increase or decrease as compared with May, 1937. Black bars represent percentage increase or decrease for May as compared with previous month—April.

THE BUSINESS TREND

How Long.

By CE

LAST month I suggested that might be crucial. Would it re confidence to the upper and m class buyer? Or not? Could priming renew the confidence o American business world and ther help raw material producers the over? Or not? A little luck r have done the trick on either side c Atlantic.

But the luck has been against ness. At home we have been face one of the grimmest budgets ever sented; by a Ministerial crisis, plu aircraft scare; and finally by a first European crisis. Any one of these e alone would normally upset the mi class nerves. Even the crisis-tough nerves of to-day were jangled by quite unexpected 6d. on the income apart from home and foreign anxi

New Spending, 'Slump' Priming, Says Business

IN America apparently public sp ing has lost its charm. There ar signs that either Wall Street or big ness feel any better at the prospe another £1,000,000,000 being pun by government into various busi channels. Both Wall Street and Th morton Street, therefore, are plunged in gloom.

This gloom is justified by an a depression in America; but in country we are still near the top boom.

New figures available show that (a 1935 the average worker was earni bigger real income than ever before between the end of 1935 and the en 1937 average wages rose by 7.6 per c while the cost of living rose by 8.2 cent. By the end of 1937 industry employing 4½ per cent more worker wages purchasing 13 per cent more g than in December, 1935.*

Even during the last quarter volume of industrial production higher than a year ago, although it 2.9 per cent below the last quarte 1937.

Business Race Going As Book Form Points

YET the fact remains that the do ward trend of the present cycle begun in good earnest. It is a per example of the economist's cyclical too; everything has been happe

**Wage Rates in the United Kingdom, 1934-7,* E. C. Ramsbottom. *Journal of the Royal Statis Society, 1938.* Part I.

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This Slide?

ISHOLM, M.A.

rding to the book. First of all shop began to fall away; the volume of il sales stopped rising in the second ter of 1937; in the last quarter it already falling behind 1936 and it continued to fall ever since. Busi- activity continued to rise until ust of last year, maintaining this t level until March of this year, when ll below 1937. Both the *Economist's* x of Business Activity and the rd of Trade Industrial Production ex show falls for the first quarter of .

ce—Volume See-Saw Is erated by Rearmament

URIOUSLY enough, the decline in the volume of retail sales coincided a rise in price. This time lag veen a fall in retail sales and in eral business activity is normal, ause goods placed on order take e time to complete. The rise in il prices is, of course, largely due to higher prices we were paying for orted goods, and partly to the ease in our own manufacturing costs ch have been accentuated by re- ament.

t the present moment the fall in ld prices is impoverishing every tern and Empire raw material mar- while the rise in our own costs will

Business Regional Indices

sperity spot in Britain at present—and likely to n so for some months—is Glasgow. The sensa- rise of 22 points—from 114 to 136—during the d between February and March reflects influence mpire Exhibition on Scottish commercial life. It nificant, for example, that bank clearance figures kept up in Scotland while throughout other of Britain they have declined. Retail sales, too, been maintained; commercial car licences issued increased. All these factors can be traced to Exhibition. Scotland expects to be busy; is busy; remain busy for months because the Exhibition success. Go to Scotland to get "plus" sales this ner.

ewhere, with exception of perennially prosperous , the recession shows up in the indices published issue. London even reveals a 7-point decline, ly attributable to the slack-off in West End y trades and car sales. Employment in the polis remains at a high level.

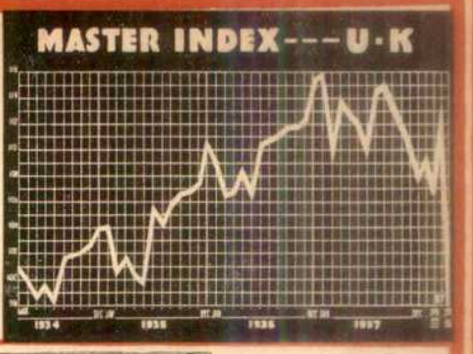
rth and Midlands also show a 7-point recession. is a reflection of the temporary slow-down in ron and steel industries and building. Decline armament factory building work account for of the fall. It will take time for private and ary business construction to take up slack left ompletion of major building programmes of the nment.

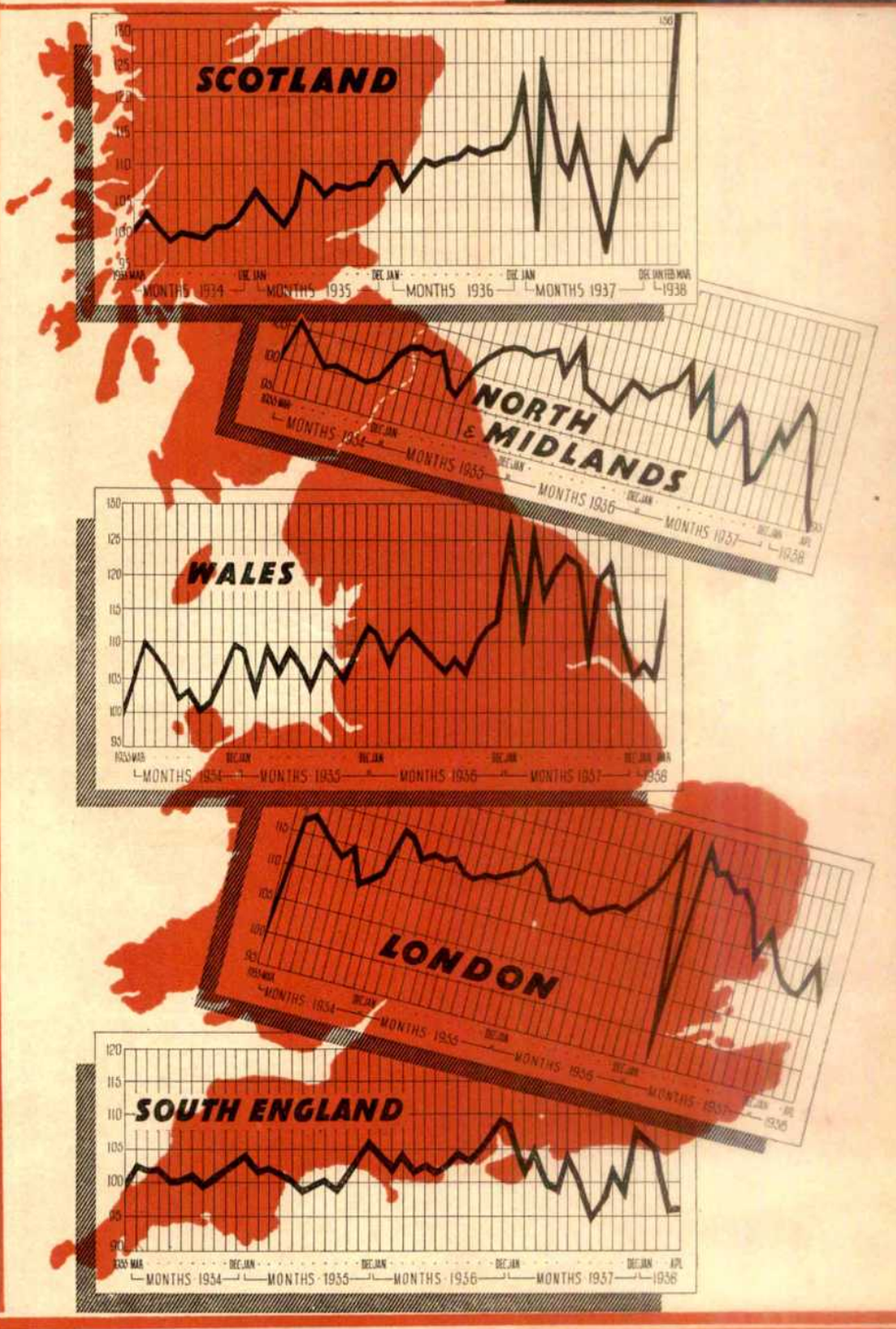
til we get April figures for Wales it is difficult uge how that area is standing up to the reces- l tendencies. It is significant, however, that al building is at a high level in the district. the 12-point rise recorded. Building is a vital r in maintaining Welsh prosperity.

Reading the Indices

these new indices, the average business activity ch area during 1933 is taken as the base (=100). indices are given by months.

BUSINESS REGIONAL ACTIVITY INDICES





53, LORD ST., LIVERPOOL
68, GORDON ST., GLASGOW
12, LEEDS RD., BRADFORD
25, NEW BRIDGE ST., NEWCASTLE
74, GEORGE ST., EDINBURGH

inevitably affect exports still further. Fortunately the fall in import prices, by raising purchasing power here, will inevitably help to check the depression. But that can only occur considerably farther on in the cycle.

Look Left This Month To See Chart Figures

A GLANCE at the bar chart on page 46 shows the extent of the damage. The number of both red and black bars on the left-hand side, where scarcely any had been seen for two years past, witnesses the turn in the tide.

Even the two missing working days in April do not account for the fall in the steel production of 13.1 per cent under last year; for a fall in raw material imports of 17.2 per cent; in building plans of 24.1 per cent (factory plans show a fall of 45.4 per cent); of 9.3 per cent in motor registrations; of 1.1 per cent in employment.

What forces are at work (if any) to abate the influence of the trade cycle? First there is the armament programme, now developing out of the building stage into the mass-production of materials, weapons, and ammunition. Another is the big speed-up in the aircraft programme. A third is the report that orders for capital goods have improved since March.

Expect Holiday Spending By £ Millions This Year

FURTHER, there is the very high level of expenditure throughout the country. If the classes are not spending generously, the masses are spending more freely than ever. Paid holidays for 7,750,000, or over 40 per cent of our 18,500,000 workers receiving under £250 a year, will do much to maintain expenditure during July and August. It means around £16,000,000 of spending money, much of which has not hitherto been released in this way. The Scottish Exhibition also should assure a record tourist trade this summer.

U.S. 'Cheques' Needed To Stabilize Markets

TAKEN together, however, these influences can but mitigate the present downward trend. To check it substantially we require greater confidence not merely in our own suburbs but in the boardrooms of New York, Chicago, and Detroit.

At the moment the American picture is not encouraging. Pump priming has failed in its initial effect. There has been no uprush either in business or in the markets. Steel output has just touched a new "low" at 29 per cent of capacity. The motor trade is still in the doldrums; building is stagnant; enterprise appears to be at a discount throughout the country.

'Sam, Sam, Pick Up Tha' Market'

AMERICA has again acquired an export surplus through her reduced requirements for rubber and tin in particular. On the other hand, a quick change in the political horizon or some unforeseen circumstance may quickly change American psychology. We must, as usual, be prepared for the unexpected from that country.

Throughout the Empire, business and conditions generally are better. The South African election gives reassurance of stable government for another four years. Canada has had an exceptionally successful year in overseas trade, stepping up to the fifth place among the nations.

With the trade cycle definitely turning downward, the business man must shape his policies towards fighting increased sales resistance by lower prices, better service, special inducements and, above all, aggressive selling.

An analysis of some of the special sales problems that face many business men to-day will be found in "Marketing Trends" on page 53.

SCOTTISH ADVERTISING AGENTS

understand the Scottish Market thoroughly

Personal Service...

The Products of many well-known Scottish firms are advertised by Maxwell Nicholls and Partners. Formed in 1913, the Agency has offices in Edinburgh and Glasgow, each under the direction of a resident partner with an intimate knowledge of Scottish advertising problems.

MAXWELL NICHOLLS AND PARTNERS

Registered Practitioners in Advertising

71 George Street, EDINBURGH
45 Hope Street, GLASGOW
84 Albion Street, LEEDS

InScotland

leading manufacturers entrust their advertising to the Agency known for its good service, its understanding of markets and its technical efficiency.

David H. Pearson
Advertising Ltd.
113 WEST REGENT ST.
GLASGOW, C.2

Advertising GENERAL & TECHNICAL

THE R. G. BROWN
ADVERTISING AGENCY
166 BUCHANAN ST., GLASGOW
Phone: Douglas 1214/5
Grams: "Syren, Glasgow"

★

MITCHELLS
-for preference

COMPLETE ADVERTISEMENT SERVICE
68 GORDON ST.
GLASGOW, C.1.
Phone: Central 1205/6
Grams: Mitchelad

The McMURTRIE
ADVERTISING SERVICE
11 BOTHWELL STREET
GLASGOW, C.2.
PHONE CENTRAL 1933-34

Registered Practitioners in Advertising

SOMMERVILLE AND MILNE

REGISTERED PRACTITIONERS IN ADVERTISING

19 ST. VINCENT PL.
GLASGOW C.1

TELEPHONES
CENTRAL 1656-7

COMMERCIAL ARTISTS — PHOTOGRAPHERS — PROCESS ENGRAVERS

"To all who visit the Exhibition we extend a warm invitation to inspect our Works."

SCOTTISH STUDIOS
& ENGRAVERS LTD.
196 CLYDE ST.
GLASGOW

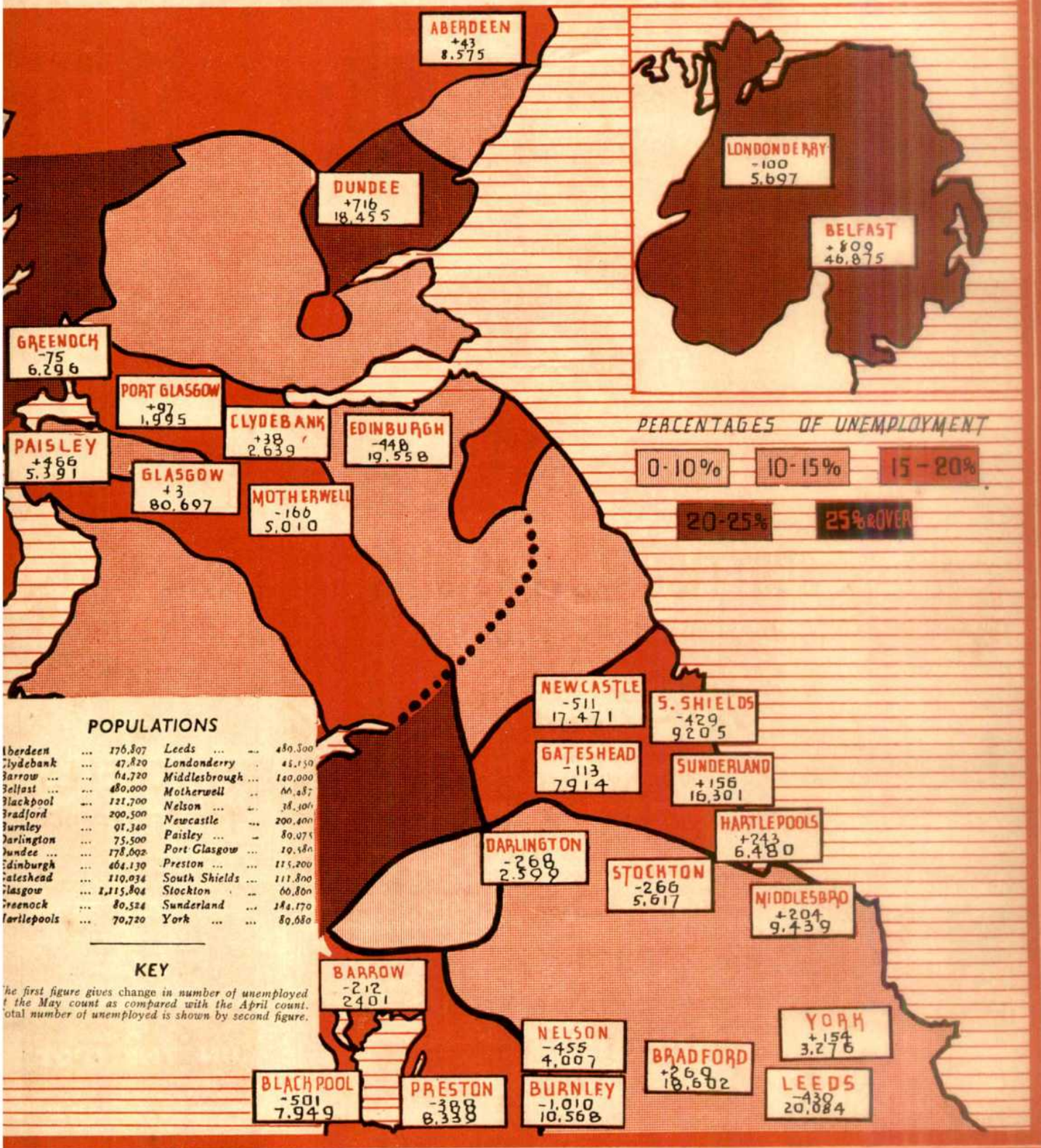
ON THE SPOT

On all matters relating to Scottish Advertising it is advisable to seek the aid of the Agency on the spot. We have had over 50 years in which to study Scottish Folks and can very capably settle your Scottish appropriation problems.

PETER A.
MENZIES
111 Bath Street, Glasgow.
Telephone: Douglas 2354/5
Grams: Menzads, Glasgow.

"BUSINESS" SURVEY OF HOME MARKETS

SCOTLAND and THE NORTH



POPULATIONS

Aberdeen ...	176,807	Leeds	480,300
Clydebank ...	47,820	Londonderry ...	45,150
Barrow	64,720	Middlesbrough ...	140,000
Belfast	480,000	Motherwell ...	66,487
Blackpool ...	121,700	Nelson	38,300
Bradford ...	290,500	Newcastle ...	290,400
Burnley ...	91,340	Paisley	80,075
Darlington ...	75,500	Port Glasgow ...	19,580
Dundee	178,892	Preston	115,200
Edinburgh ...	464,130	South Shields ...	111,800
Gateshead ...	110,034	Stockton	66,800
Glasgow ...	1,115,894	Sunderland ...	184,170
Greenock ...	80,524	York	89,680
Hartlepools ...	70,720		

KEY

The first figure gives change *in number of unemployed at the May count as compared with the April count. Total number of unemployed is shown by second figure.*

Scotland! "The Scotsman"

THE EMPIRE EXHIBITION • GLASGOW • MAY – OCTOBER

You are cordially invited to visit our Pavilion which features Teletypesetting demonstrations. *The Scotsman* —the Country's National paper—introduced Teletypesetting into Europe, and now has the largest Teletypesetting battery in the world

Head Office:
North Bridge
Edinburgh

ART WORK FOR ADVERTISING

Is more than just making drawings. However good a drawing may be, if it doesn't sell the goods, it's a bad drawing. Our artwork is not only good art but good advertising.

RALPH & MOTT

Creative Service for Advertisers

ADVISERS — ARTISTS — COPYWRITERS
46 GILLINGHAM ST., S.W.1
Telephone VICTORIA 7362

ALL that is New, Original, Proved, Practical and *Usable* in ADVERTISING and MARKETING

Comes to You In The

ADVERTISING MONTHLY

1/-

Devoted Exclusively to the Interests of Business Executives, Directors and Managers, whose Job it is to Widen Distribution and Increase Demand

Order from your Newsagent TO-DAY or write for Specimen Copy to the Publisher, The ADVERTISING MONTHLY, Whitefriars House, Tallis Street, E.C.4

PRINTING

- designed with intelligence
- backed by experience
- produced with speed

BEMROSE & SONS LTD

AFRICA HOUSE · KINGSWAY . LONDON W·C·2
MIDLAND PLACE · DERBY

---

drive it home!

—the argument, or sales message, of course! And what stresses the copy better than a well-printed illustration? Try out the K&C Studio, where good drawings are produced, always with a thought for the eventual reproduction. We are blockmakers and handle the art side of many firms' publicity from start to finish. Can we not do the same for you? It will cost no more. Write or 'phone.

KNIGHTON & CUTTS LTD

BLOCKMAKERS, ARTISTS, PHOTOGRAPHERS, TYPESETTERS, ELECTROTYPERS, STEREOTYPERS • HAM YARD, PICCADILLY CIRCUS, LONDON, W.1 • PHONE: GERRARD 5231 (many lines)

Any job of MAILING is a job for PERRY'S

MAILING SERVICES LIMITED

DIRECT MAIL ADVERTISING CONSULTANTS
Addressing · Enclosing · Mailing · Facsimile Letters
PERRY HOUSE, 120/128 UNION ST., S.E.1

ADVERTISING SERVIC

Let's Get Down to Brass Tac

Are you satisfied with your present Sales ature. Most Businesses have not yet disco the ONE IDEA that will produce the gr response from the markets they wish to ex My first aim is to remedy that deficiency.

Booklets — Advertisements — Direct

Box 375 Business

Whitefriars House, Tallis S London, E.C.4

FOR HIRE!

MODER SALOO —CAR

Chauffeur Driven - - No Restric
LONG OR SHORT CONTRA

Box 398 Business, V friars House, Tallis S London, E.C.4

PRIVATE TRANSPORT CONTRACTOR requires

EXTR LOAD

between

LONDON & MIDLAN

Regular Daily Servic

Box 399 Business, Whitefriars H Tallis Street, London, E.C.4

DO YOU REALIS

1. That it is costing us a f of a penny to addre message to you.
2. That it will cost you th to place your story befo pair of eyes that reach th
3. That over 1600 importa ness executives read this from cover to cover each

Write for particulars of these spaces t

SPECIALISED ADVERTISEMENT MA BUSINESS, Whitefriars House, Tallis St.,

---

Write to the

SPECIALISED ADVERTISEMENT MA "BUSINESS"

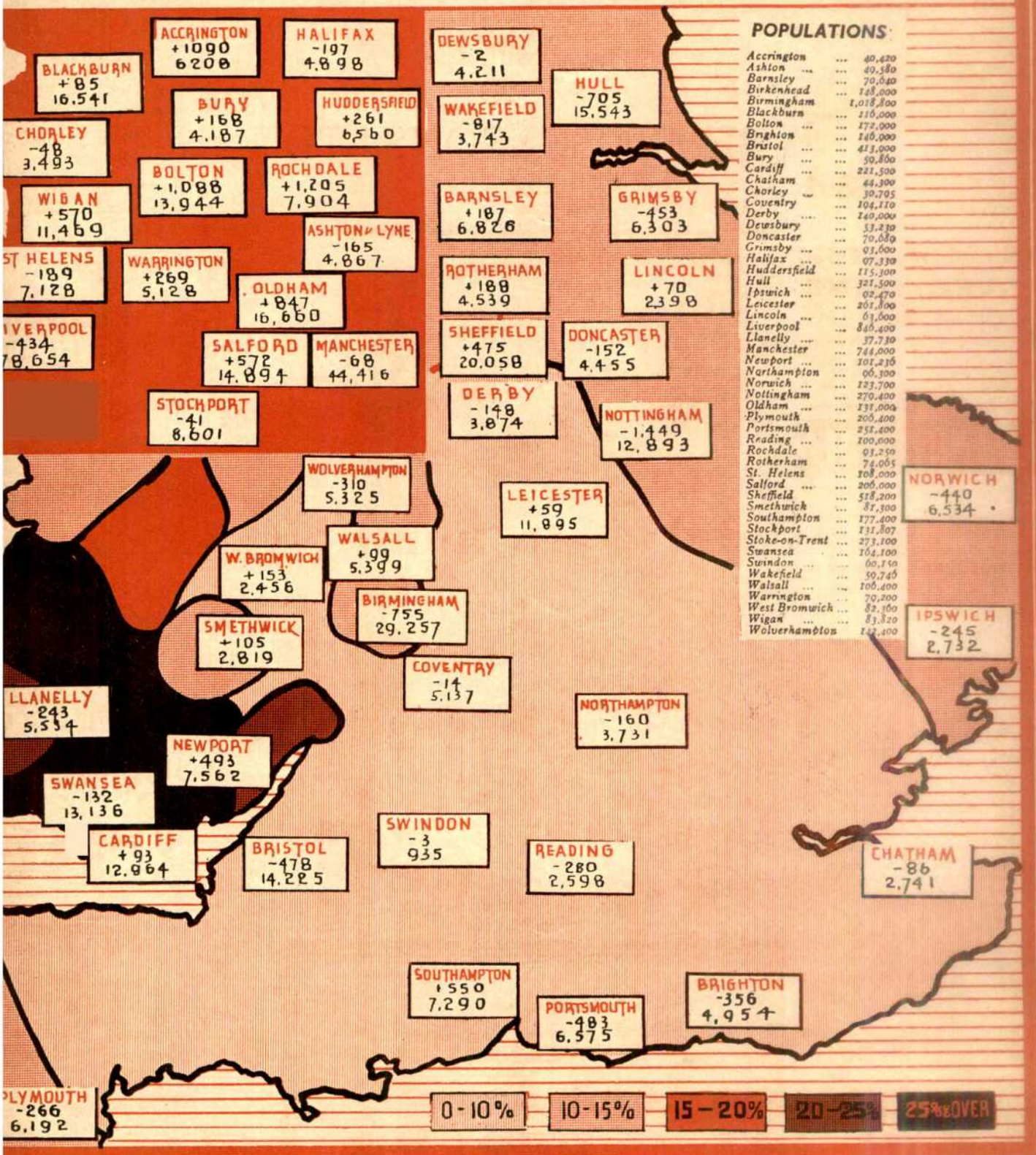
Whitefriars House, Tallis Street, Lond

for particulars of this Business Building S

"BUSINESS SURVEY OF HOME MARKETS

SOUTH and MIDLANDS

y: first figure gives change in number unemployed at May count as compared with April count. Total unemployed is shown in second figure



POPULATIONS

Accrington	40,420
Ashton	40,580
Barnsley	70,640
Birkenhead	148,000
Birmingham	1,018,800
Blackburn	116,000
Bolton	172,900
Brighton	146,000
Bristol	413,000
Bury	50,860
Cardiff	221,500
Chatham	44,300
Chorley	30,705
Coventry	194,110
Derby	140,000
Dewsbury	53,230
Doncaster	70,080
Grimsby	93,600
Halifax	97,330
Huddersfield	115,300
Hull	321,500
Ipswich	92,470
Leicester	261,800
Lincoln	61,600
Liverpool	846,400
Llanelly	37,730
Manchester	744,000
Newport	101,236
Northampton	96,300
Norwich	123,700
Nottingham	270,400
Oldham	131,000
Plymouth	206,400
Portsmouth	251,400
Reading	100,000
Rochdale	93,250
Rotherham	74,065
St. Helens	108,000
Salford	206,000
Sheffield	518,200
Smethwick	81,300
Southampton	177,400
Stockport	131,807
Stoke-on-Trent	273,100
Swansea	164,100
Swindon	60,150
Wakefield	50,745
Walsall	106,400
Warrington	70,200
West Bromwich	82,360
Wigan	83,320
Wolverhampton	142,400

NORTHCLIFFE NEWSPAPERS THE 10 TEST TOWNS

TEST YOUR ADVERTISING ECONOMICALLY

IN A *PROVED* TEST MEDIUM

No. 5. SOUTH WALES EVENING POST SWANSEA • MARKETING BOOKLET FREE ON APPLICATION •

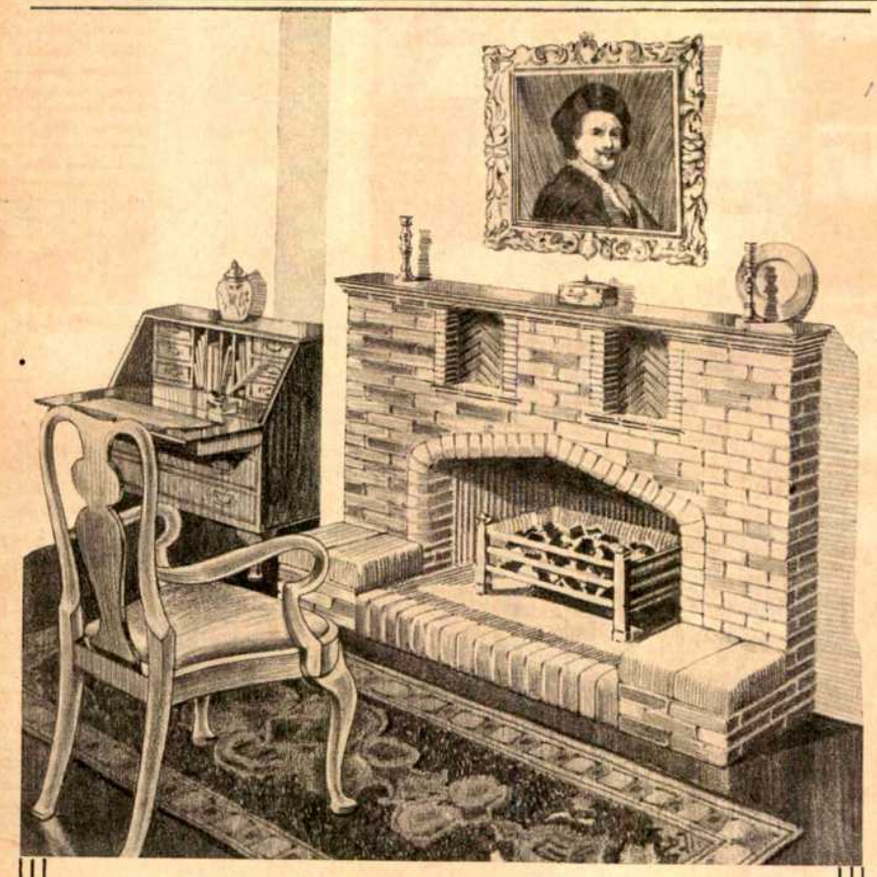
OHN COOPE • Advertisement Director • **NORTHCLIFFE NEWSPAPERS GROUP, LIMITED** • Carmelite House, London, E.C.4. Phone: Central 6000

Here's *NEWS* of Active Home Markets

NORTH

£3,500,000 Power Station Barton, Manchester, starts operation—Two 33-ton locos being built by Stephenson & Hawthorn, Ltd., Newcastle, for Turkish Government—Manufacture of cartons in one and trays, fire-screens, etc., in other is taking place now in two former cotton mills, Kirkham, Lancs—Clothing factory to employ 325 persons at Sunderland—Small industrial estate started at St. Helens, Bishop Auckland, where first factory will be London firm's leather goods production works—About 40 factories in production, another 54 let is latest account of Gateshead (Team Valley) trading estates—Over 600,000 insured workers are now employed on N.-E. coast compared with 450,000 five years ago—Orders for 60 locos for India and S. America now being completed by Vulcan Foundry, Ltd., Lancs.

About 80 Ships are being built on Tyne, Wear and Tees apart from Admiralty contracts totalling nearly £2,000,000—Tyne dock is to be extended, plans for 700-ft. quay now being passed—Total tonnage on Tees up 250,000 tons on 1936 figure—Coal exports have risen 1,000,000 in past year—Shortened holidays is now North-east's method in shipyards and steel plants to meet work pressure, a fact to keep in mind when organizing special local sales drives.



Creative artwork that sells

We can produce **every variety of illustration** in our large and modern studios, fully staffed and equipped to design from a selling point of view.

Averys Drawings for Every Trade

AVERYS SERVICES LTD

37-41, Lower Marsh, S.E.1

'Phone: WATerloo 4027 (Private Branch Exchange)

WEST & WALES

£400,000 This Year Goes in holiday pay to 135,000 Welsh miners—7,000 other S. Wales workers also getting paid holidays. English Corrugating Paper Co., Ltd., Bristol, have bought site for fresh development—Bristol Haulage Co. taken over new ¼-acre premises—Local council to build 5,000 houses in next four years—A.R.P. schemes to cost city £21,110—No electricians now unemployed in Bristol area—Local manufacturers, Britton, Ltd., Kingswood, sold more boots last year than in any year since 1927.

More Miners At Work, 10,000 of them, than at this time year ago is cheerful news from long-depressed Welsh mining valleys. Average drop in unemployment 10 per cent—200,000 tons up in 1937 on 1936, 50 per cent up on 1935, is Wales's iron and steel industry's record. Tinplate industry exceeded 1929's record output of 900,000 tons, opened up 28 more mills last year—S. Wales's 200 cargo ships all traded unceasingly during 1937.

£10,000,000 Ebbw Vale development well advanced, parts of plant being in production. Revitalizing, this, to Ebbw Vale area. People paying off debts, eating more food, buying more clothes, refurnishing homes. Certainly a market to be into this year.

Cheap Water Found at Bristol's Blaize Castle estate will cause quicker expansion of this new factory area—Vast gas-mask store is to be built at Avonmouth—£250,000 building scheme in King Street is part of G.P.O.'s expansion plans—Last year's total traffic of 4,818,000 tons at Bristol port showed 335,000 tons rise over 1936. Other record figures: letters posted, 101,713,000, over 5,000,000 up on last year; letters delivered, 105,532,000, 7·5 per cent up; telephone calls, 52,258, up 6,000—In past five years city unemployment halved.

SCOTLAND

Glasgow's £10,000,000 Empire exhibition is going with a swing—Over 100 pavilions and palaces display might of Empire's industry, scores of thousands of people swarm through grounds each week—All Dominions and about 40 colonies are exhibiting—Scottish Union & National Insurance Co. made profit of £330,000 last year—J. Finlay & Co., Ltd. increased profits by £43,967 in year ended—Motherwell Bridge & Engineering Co., Ltd., have got large orders for aeroplane sheds, enough work to keep works operating at capacity for months ahead—With exhibition attraction and good crop engineering orders coming in, Scotland will be worth selling to this year, especially throughout summer months—Reports of firms already active in area bear out this point. Keep in mind, too, fact that scores of thousands of foreign visitors are flocking Scotland-wards. If you can sell to them, it is plus cash.

Nearly 50 Manufacturers have taken factories or sites now at Government-subsidized North Hillingdon, employment given over 1,500—Clyde Trust is to spend £20,000 on grabs, cranes, etc., to improve Rothesay dock—Clyde Iron Works' Colville plant now operating creates demand for 2,000 tons daily of iron-ore—Factory extension is being carried out by Ioco Rubber & Waterproofing Co., Ltd., Anniesland, Glasgow.

Marketing TRENDS . . .

Current Facts that will help in Shaping your Sales Campaigns

By the
MARKETING EDITOR

Use This 'Cause-way' As Road To New Sales To-day

ANALYSE now causes of any business sag to find out how to keep up sales in coming months, maintain profit margin. Lack of confidence is one general cause, but others—smaller, maybe more subtle—have influence. Talks with manufacturers, wholesalers, chain and departmental store chiefs reveal these factors as affecting trade: (1) national "keep fit" campaign; (2) unusual weather; (3) after-effects of last year's coronation spending; (4) preoccupation with A.R.P.; (5) recent increases in unemployment; (6) growth of pastimes, such as darts.

Do not be sure none of these concern you. Their influence is widespread, particularly over lower middle- and better-class spenders.

●

Shrimp Investor Is 'Crab' To Salesmen

NOT listed above but of real importance is plight of small speculators. Share prices, having shrunk in many cases to half or less of last year's high level, cause spending power of this class to dwindle. Not necessarily because they have not money but because their safety margin of savings has gone or nearly so. Hence they will not spend any more than they can help.

Typical instance of this outlook is found in car sales drop, fall in sales of better-class goods, reduction of luxury trade. Investors are "making do" with what they have.

●

Try A 'Pub Haul' For Bigger Summer Sales

VIGOROUS pursuit of sales where people congregate is always sound policy, hence set your travellers to do a "pub haul". Certain goods—foodstuffs, sundries, some sports goods, etc.—might well be displayed or sold in pubs. Naturally, the list is limited. Does it include your lines? If so, now is the time to cash in on darts craze.

Other retail outlets of growing importance are wayside cafés, stalls, tea gardens, country stores, etc. Now people are cycling, walking, getting into the countryside for pleasure and health, retailers mentioned are doing more business. I know one manufacturer of small first-aid outfits who has doubled his number of country outlets and increased sales 20 per cent to date. Maybe his products lend themselves to this drive, but the principle is the same for most kinds of consumer goods. Can you follow up this idea?

●

National Fitness Improves All 'Figures,' Except Sales

TROUBLE arising from the "keep fit" campaign is this: people are spending spare time doing physical drill, gymnasium work, playing games, walking, cycling, etc. For this they need little clothing or other goods. Usually old clothes are suitable.

Remember, too, time being taken up with country-wide A.R.P. work. Instead of going to cinemas, other amusements, staying at home to listen to radio and so on, young and old attend lectures on protection against gas, high explosive and incendiary bombs or get themselves into fighting trim for much-rumoured but unlikely war.

●

First-Class Weather Gives Buyers 'Second-Hand' Ideas

MANY manufacturers tell me that last year's national jubilation led to overspending, recovery from which is still going on. People are now replacing spent savings.

Summer-like spring has helped them. Uncertain of the warm weather, they put off buying lighter clothes. Now, at verge of summer, they are "making do" with cheaper substitutes. Men, for example, are buying flannels, sports shirts and jackets, etc., instead of light spring and summer suits. Women are skipping spring-wear, going for summer dresses.

Typical sufferer of unseasonable weather is the boot industry. Cheaper lines remain unsold because absence of rain allowed poor classes to go through recent months without usual winter-spring heavy, waterproof footwear.

●

Manufacturers Make Pool To Spread Their 'Sales'

WHAT are the manufacturer and retailer to do about these adverse factors? Certainly not sit back, grumbling. Proper policy is to search out ways to cash in on these current trends. There are effective methods.

First consider background advertising. Groups of manufacturers with kindred interests can combine resources to push their products on a national scale. The refrigerator group is an example. Individual manufacturers cash in on the main background advertising by conducting series of local campaigns. This cuts out expense of national schemes, increases selling power of localized efforts.

●

Fashion Now To 'Style' Appeal In Your Selling

SECOND scheme is to *sell with the trends*. This means basing sales appeal on current thought and feeling. Instance is recent chocolate, milk, and similar consumer-product advertising. Appeal has been to cyclists, hikers, sports followers, etc. Products are being sold as though they were naturally part of the "keep fit" movement.

Simple though such styling is, it is effective. This policy could be followed by most manufacturers of consumer-type goods. Clothes, for example. All food products. Footwear. Tonics, medicines, goods for personal and general hygiene. The "keep fit", health, cleanliness, etc., angle can be applied without strain to majority of ordinary goods. Even slight adjustment to goods themselves might be worth while.

Think over these suggestions. You may find them a means of increasing sales.

Use This Weather Forecast In Planning Sales

Towards the middle of June there will be some fairly settled weather, frequent long sunny periods and fairly warm temperatures. Expect coastal mist and inland haze about this time. Thundery clouds may develop occasionally.

Near the week-end 25th—26th weather will break temporarily, with some cloud, wind and local thunderstorms. In many districts, later in the week-end, conditions will improve, but they will be disturbed locally.

Over the last part of June somewhat broken weather is likely, interspersed with sunny intervals. The beginning of July will be cloudy, often with occasional doubtful thundery conditions over many parts of the country. There will be a good deal of sunshine towards the week-end 9th—10th July.

This forecast summary by Bartlett Bros., long-range weather experts, is brief and general. You can, however, get a *detailed day-by-day forecast for specific areas* throughout Great Britain. Forecasts for any period up to a year ahead are available. If the sale of your products is in any way affected by weather conditions a detailed forecast may have a vital influence on your sales plans and their success.

Many firms are using this weather forecast service. Tested over a period of two years, the forecasts have been proved more than 90 per cent correct.

For information, write to: The Marketing Editor, BUSINESS, Whitefriars House, Tallis Street, London, E.C.4.

Customers say—

"Whenever we want out-of-the-ordinary sales literature—we come to you"

That is a very frequent comment—and one with a significance for you! You can obtain much better results from your expenditure on sales literature if your literature is out-of-the-ordinary.

We have a reputation for designing and printing unusually striking sales literature. Would you like us to submit for your next piece of printed matter a layout which will not put you under any obligation?

J.W. RUDDOCK & SONS
Printers & Sales Consultants
LINCOLN
and at 3 Old Jewry, London, E.C.2

Eat Joyfully . . . Yet Keep *'Spring' in Your Summer Work*

To banish Summer Lassitude and keep your Driving Energy throughout the day you do not have to be 'finicky' about food. Harley Street solves the problem for you

MOST of us find that in summer there are often times when it is real hard work to produce ideas, when nothing short of a mental wrestling feat will enable us to put the necessary drive behind promotion plans or even behind the ordinary daily routine. In other words, we feel whacked.

At such times we delude ourselves into thinking it is the forthcoming holiday that we need; or we imagine we ought to cut down our smoking. The timorous among us even believe these symptoms are the heralds of old age!

The reason really lies in quite another direction. But few people think about that. We are running on the wrong kind of fuel.

Winter and summer provide two totally different conditions of living. Nature, frankly, needs some little help towards enabling her to adjust herself to the change from winter to summer. We are just plain fools to refuse her this help. And when we do refuse, she just kicks back at us.

The help Nature wants is a change of fuel. You must give her a "diet".

To the average business man a "diet", we know, is just exasperating restriction. Few restaurants can provide it for luncheon, and at home for breakfast and dinner it generally throws the kitchen into confusion.

We therefore sought the help of Harley Street on behalf of our readers for this summer.

There is No Need to Go On a 'Diet'

"Far better than a diet is a *plan for eating*," said our adviser. "Here is a summer menu that is the result of a great deal of research. It is designed to embody all the qualities of weight restriction and at the same time to contain the maximum values of nourishment and energy-building. It throws no heavy burdens on the kitchen, it can be obtained in most restaurants, and, above all, it is not monotonous or unattractive."

As a summer diet you will find that it helps tremendously in defeating lassitude and in helping you to keep "on the job" from the time you dictate your letters in the morning till you sign them at the end of the day.

And when you have looked after yourself thus through the summer, you will find that it is not such a bad programme to observe through the winter, too.

Summer Plan for Eating

Breakfast: One whole grapefruit. Two slices of crisp bacon and one egg. Tea, or coffee, and a little milk. No bread, butter or bread substitutes.

Lunch: One serving of lean meat, preferably grilled or roast. Two small servings of any vegetable that grows above the ground. Stewed or sliced oranges. A glass of skimmed milk.

Tea: Tea. No solid food.

Dinner: Meat or fish, chicken or game. One fair-sized helping of any vegetable that grows above the ground. One half-square of butter and two cream crackers. Half a grapefruit, or fruit salad. A glass of skimmed milk. Black coffee, sweetened, if necessary, with Saxine or saccharine.

On retiring at night: Half a pint of orange juice, alternated with grapefruit juice.

Special mention has not been made of fresh green stuff (salads) and fresh fruit. Without "planning" these into the meals given above, our adviser simply said: "Just eat as much of it as you like, it is always good as a clearing agent, though without much sustaining power. Many business men do not like 'rabbit food', the above meals are therefore designed to be quite satisfactory without it."

Ideas Drawings and Copy by CRICHTON STUDIOS LTD. will make a big difference to your advertising

5, CHANCERY LANE, LONDON W.C.2. HOL.8400
and at Prudential Buildings, King St., Manchester

Your typist's work is more satisfactory if she sits at a WATLANE

Watlane Typists' Desks provide more operator-space than the usual small typist's table, allowing for greater freedom of action and preventing congestion arising through accumulation of work.

Though low in price (45/6) they are nevertheless sound in construction and smart in appearance. Send for catalogue.

WATLANE CABINET CO.
15 Grange Rd., Willesden Green, N.W.10

USE THIS COUPON

If you desire information from the Editor or from Advertisers attach this coupon, which should be signed by a responsible executive, to your business letterhead and post to:—

BUSINESS Service Department, Whitefriars House, Tallis Street, E.C.4.

Please send, without obligation, more information in connection with advertisement (or advertisements) in the June, 1938, issue of BUSINESS numbered below.

Numbers (see Index, page 5).....
Firm.....
Address.....
.....

Quicker RESULTS

You get results ***faster*** when you direct your business via the Dictaphone. You speed up your whole organisation.

No time-wasting waits for a secretary ; no ideas jotted down on scraps of paper and lost ; nothing forgotten or misunderstood. All your orders, instructions and intentions go quicker into typed form—clear, unforgettable, unmistakable.

This instant availability of the Dictaphone is the secret of better management, and it gives you more time for ***planning ahead.***

Ask for "What's an Office, Anyway?"

DICTAPHONE TELECORD

Also get particulars of the Dictaphone Telecord. It gives you a perfect record of all telephone talks and messages, saves time and lessens congestion on the line.

THE DICTAPHONE CO., LTD

(Thomas Dixon, Managing Director)

DEPT. H, KINGSWAY HOUSE, LONDON, W.C.2

Phone : HOLborn 4161-2-3-4

and at MANCHESTER, BIRMINGHAM, LEEDS, LIVERPOOL, GLASGOW, NEWCASTLE-ON-TYNE, BRISTOL, DUBLIN & BELFAST

ALWAYS HANDY—ALWAYS READY

The Dictaphone

is much more than a mere dictating machine. It is an indispensable adjunct to perfect ***business control.*** Executives find it halves effort and

DOUBLES PERSONAL OUTPUT.

•

Test it for yourself free of all obligation.

•

**Call, write or telephone to-day*

The Trend to Dictaphone sweeps on

two for one

The name of every regular Radio Times advertiser is displayed in every appropriate Radio Times advertisement in 45 important trade papers. While *you* tell 3,000,000 families to buy, *we* tell your retailers to stock. So you cover two marketing problems at the cost of one.

GUARANTEED AVERAGE WEEKLY NET SALE FOR 1938, THREE MILLION

RADIO TIMES

A NATIONAL CAMPAIGN IN ITSELF

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

VOL. LXVIII

BUSINESS

No. 7

THE COMPLETE JOURNAL OF MANAGEMENT

Incorporating "The Magazine of Commerce", "Modern Business", "System", "Business Organization and Management"

JULY, 1938

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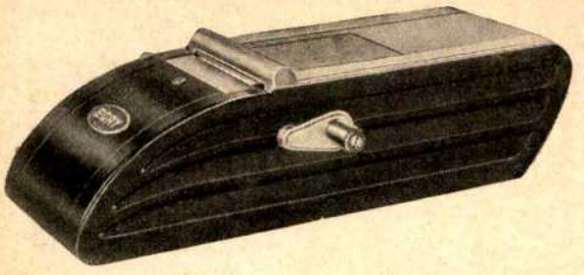

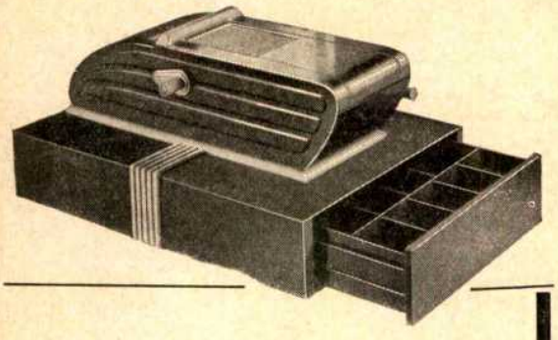

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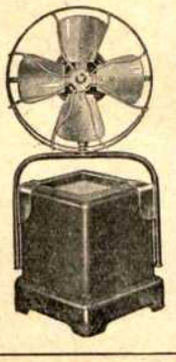

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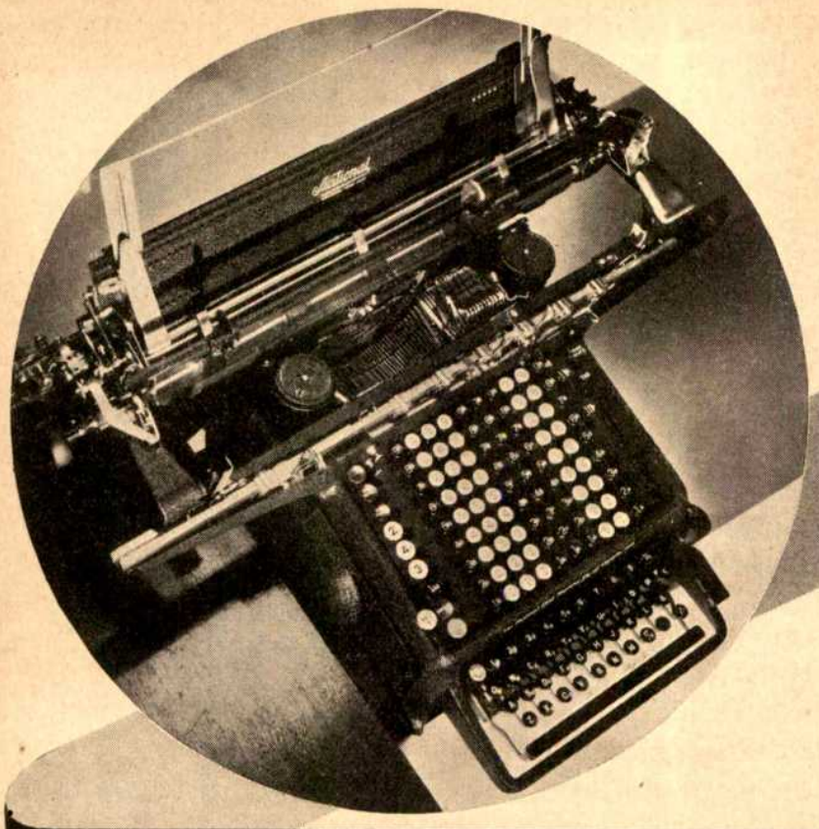

AN ANNOUNCEMENT

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BUSINESS
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JULY, 1938

Only *Real* Rationalization will give *Real Economies*

"Rationalization is not a panacea for all business ills. What merging does is to create opportunities: opportunities for replanning the control of a group of businesses so that those directing the new combination can eliminate certain of the wastes and disadvantages which arise from independent trading by the constituent units."

By L. URWICK, O.B.E., M.C., M.A.
Chairman: Urwick, Orr & Partners, Ltd.

IT is now more than ten years since the World Economic Conference of 1927 passed a series of strong resolutions in favour of Rationalization. Yet, at a recent meeting of Pease & Partners, Ltd., the Chairman, Mr. J. Frater Taylor, was compelled to call attention to the abnormal position developing in stocks of pig iron and scrap due to imports from abroad, and the unfair incidence of controlled prices on those companies owning works carrying out the whole course of manufacture from iron ore to the finished steel product.

He went on to suggest that in dealing with these and similar problems the iron and steel industry might be better off if it was so organized as to have more direct responsibility for its own welfare.

He indicated in his view that this could be achieved by interinvestment between existing companies. "Once more," he said, "I must voice my belief in real rationalization. Natural mergers still appear to me to be necessary, so that having regard to all those interested, the wage earners, the shareholders and others, the most effective operation may be attained."

For Long the Term was Much Misunderstood

Rationalization is a long word. When it first achieved popularity it was in danger of becoming a "blessed word". It produced at one stage a crop of varying definitions as numerous as were the industrial leaders and economists who spoke or wrote of it.

Mr. Frater Taylor has called attention to the problem at a time when fading popular interest in the term allows it to be considered soberly. It will be noticed that he emphasizes *real* rationalization and *natural* mergers.

At an earlier period, in the first flush of enthusiasm for the idea, the mere merging of businesses was regarded as a good thing in itself.

But in case after case the anticipations entertained when former competitors came together did not work out in practice. There seemed to be a curious catch somewhere which prevented apparently reasonable and logical arrangements for yielding improved financial results in the trading accounts of the new combine. In consequence those concerned often expressed disappointment with "rationalization".

That was unreasonable. Rationalization is not a patent medicine warranted to cure all business ills. To set half a dozen ill-assorted businesses to keep house together offers no security to their creditors.

In fact, to combine businesses which are not adjusted economically and technically the one to the other so as to be suitable for merging is likely to create difficulties and expense rather than to solve them.

All that merging can do is to create opportunities: in itself it creates nothing else. And in essence such opportunities consist of the replanning of the control of a group of businesses in such a way that those directing the new combination can eliminate certain of the wastes and disadvantages which arise from independent trading by the constituent units. If, owing to the nature of their operations, the constituent units can in fact be managed quite as well and conveniently independently or must in fact so be managed, or if those in control of the new entity are unable to create an organization capable of seizing the opportunities presented, then the act of merging will merely add to the expense and complexity of administration.

Many different kinds of mergers can be distinguished: in fact, no two combinations are exactly alike. But from the economic point of view there are two main varieties which differ fundamentally. The first rests on the fact that the whole economic process, from obtaining raw material to placing some form of product in the hands of consumers, is in reality a single operation.

In so far as independence between the different processes in that operation creates uncertainty of supply or cost, transport charges and so on, there may be great advantages in bringing the whole operation under a single control. Friction is cleared away, and the production of the units can be planned and coordinated far more closely. The minds of those engaged on the earlier processes are concentrated on the real objective of the whole operation, the satisfaction of consumer demand. This type of situation leads to large vertical combinations.

Among Other Things, Price-Cutting Controlled

The second main type is where the constituent units are engaged in the same process. Here again from the standpoint of those units unification of control may have great advantages. Price-cutting is kept within bounds; the experience of the most effective units can be standardized for the combination as a whole, supplies can be purchased in bulk and redundant plant eliminated. Such situations lead to horizontal combinations.

While these two main types can be distinguished in their broad outlines, they are seldom reproduced exactly in practice. Almost every actual situation

reveals a complex of permutations and combinations of the two main types and of every possible variant either side of the central economic principle involved in each of them.

It is this complexity and the difficulties which it introduces in adjusting practical plans of co-operation that is the cause of much of the disappointment experienced with schemes of rationalization.

It is one thing to look at a group of existing businesses in general terms and imagine how economical and convenient it would be if this and that were done. Ignoring details it is comparatively easy to design a coherent pattern. It is quite another matter to deal in detail with the personal and economic problems which must be solved if the pattern is to come to life.

If, in fact, some of the units are not well adapted to take their place in a correctly planned and balanced larger entity these practical difficulties are much increased. It may be many years before the cost of reorganization is amortized and the new combination realizes the profits so confidently anticipated—on paper—when it was formed.

Some Causes of Unsuitability for Rationalization

Some of the causes which may make units unsuitable for merging with others are:

1. Lack of balance. In a vertical combination each unit should be capable of absorbing the full output of the unit preceding it in the chain of processes. Otherwise the latter is forced to sell some of its production to competitors at a disadvantage.

2. Inequalities in cost. Unless each unit is an efficient low cost producer other units will be handicapped by being forced to take materials at a price above the market.

3. Location of factories is another important factor. A group may be suitable for amalgamation on other grounds, but units may be so situated that it is not possible to service certain portions of the market economically from any of the existing factories.

4. Where units are carrying out the same process differences in quality and/or price may make processes in an apparently competitive field quite unrelated. The same consideration applies to groups of customers at different income levels.

The large horizontal type of merger, while it may yield immediate economic advantages for the units concerned, may in fact prove a handicap to the industry as a whole and thus eventually undermine its own position.

The presence of one or more large mergers partially monopolizing one process of a complex industry and more powerful than their unmerged suppliers or customers engaged on other processes, can hold up prices or introduce obstacles to the proper vertical integration of the industry. They may make the industry inflexible so that it does not adjust itself quickly enough to the changes in demand, price levels and so on, which are so marked a feature of modern business.

These are The Factors To be Considered

In general the following groups of considerations should be examined in detail before any amalgamation is allowed to go forward:

(a) Is the proposed arrangement economically sound, reviewing the kind of points outlined in the preceding paragraphs?

(b) Are there legal difficulties?

(c) Is the financial position secure? The consolidation of factories, etc. will call for capital expenditure before the anticipated economies can be realized. Has this been foreseen and provided for?

(d) Has the combination a prospective head, who not only has the knowledge and ability to direct the affairs of the combined group but commands the confidence and respect of his future colleagues?

(e) Are the earnings positions of the respective units satisfactory? If calculated on a uniform basis and assuming the conditions which would have existed had the units been already combined, do they show wide discrepancies, particularly in their ratio to fixed capital? In other words, will the combination have to carry excess plant or other unproductive assets on behalf of one or more of its constituents?

Short of actual merger there are many degrees of collaboration which are possible between units in the same or complementary industries. But here again the potentialities of any arrangement depend ultimately on its base.

If it arises from a real economic need for collaboration and is appropriately designed to deal with that precise need it will work. Bargains between sensible people which benefit both parties are kept without any need for legal formalities. All the legal sanctions in the world will not maintain for long a bargain which has ceased to be economically useful.

The prosperity of the iron and steel industry is a matter of first-class national importance.

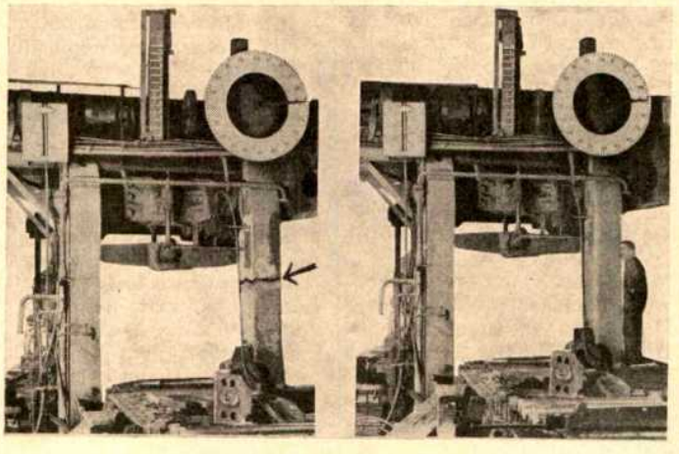
If its internal organization in certain respects does not provide for proper planning to meet economic requirements where collaboration is essential, far the best course is that those in the industry should take their own steps to establish appropriate machinery to secure this.

As Mr. Frater Taylor hints, such machinery need not necessarily involve outright merger in all cases: interinvestment between firms may be sufficient. The important point is that the balance and direction of material interests and control within the industry should be on lines which coincide with the economic and technical requirements of operation at minimum cost.

In the instance to which he refers the procedure followed by the State to correct a shortage of material in one part of the industry organized in one way has been such as to cause serious surplus stocks and potential unemployment in another part of the industry organized in another way.

This is good neither for the industry nor for the country. And in calling attention to the need for further measures of "real" rationalization he has performed a public service.

This Welding Feat, Carried out on the Site in 96 Hours, Saved Thousands of Pounds in Delays



In the repair, by welding, of the upright of this rolling mill the cost of a new standard was saved and thousands of pounds in losses due to delays on contract work were avoided. Full production was resumed after only 96 hours for the repair.

The weld (arrow shows fracture, which was right through the column) was carried out by Barimar Ltd., whose engineers worked in continuous relay to complete the job in such remarkable time. Incidentally the repaired standard was at the same time reinforced; it now has a greater margin of strength than it had originally.

It is of interest to record that in this machine steel billets 5 in. thick are rolled into thin sheets. The rollers are shaped to handle two sections of metal at a time; this gives some idea of the strain imposed on the machine which is operated continuously night and day for long periods. The man standing on the right of the repaired column indicates its size

This *Junior Executive Board* . . .

Is a plan that finds and develops the Best Thinkers in this organization and fits them for future Managerial positions

Says CHARLES P. McCORMICK

IN many instances the most critical time in the development of a business is during the period when it ceases to be a one-man venture and, through necessity of expansion, is brought under multiple authority. Then it either loses the dynamic driving force of an individual or it is infused with new ideas and forges ahead under collective leadership.

From its establishment in 1889 by my uncle, Willoughby M. McCormick, until his death in 1932, our company was largely a one-man business.

After I left college my uncle put me through a course of training. During seventeen years I was active in all the various departments of the business.

New Ideas Were Simply Killed At Birth

Throughout my long apprenticeship ideas came to me concerning possible improvements in the business. At first I relayed these ideas to my uncle in the form of suggestions. He listened patiently and with a peculiar smile; but to judge from the outcome he immediately dismissed from his thought everything I had said. Finally, one day he said, in unmistakable terms, that my employment was in the field of *being* managed—solely and exclusively.

I never again annoyed him with suggestions; but ideas for the improvement of management continued to occur to me. Most of these ideas I tested by applying them in imagination. Others I jotted down and studied from time to time. It was excellent mental exercise.

After my uncle's death the Board elected me head of the company. Then I found that out of the hundreds of ideas concerning business management that had come to me only a few had survived. The principal survivor concerned the advisability of giving the young men in the company not only more to say but better opportunities for development and advancement; and that idea, I believe, was the beginning of our plans for multiple management.

Somewhere, long ago, I had read that the average business man utilized only about half his mental capacity. For some time I doubted the truth of that statement, until I had tested it out through self-analysis and my observation of others.

Our first objective, then, was to find a way to stimulate all our executives to apply as much of their mental capacity as possible to the management of the business.

The members of the board had grown into the habit of confirming my uncle's judgments. All subjects of importance were discussed at board meetings, of course; but the final decisions invariably rested with W. M. McCormick.

But I had taken stock of myself and had arrived at the conviction that I possessed neither the ability nor the inclination to be the manager of a one-man business. I needed all the help I could get, and I impressed the board with that fact. I also assured them that I realized the value of their individual experience, their mature judgment, and their collective wisdom, but that I was convinced we should exhaust every source of ideas and information. I then proposed a plan for the formation of a junior board of directors, and they voted to give the plan a thorough test.

This New Board Was a Fresh Motive Force

So we organized the new board. I called together seventeen of our younger men who appeared to be promising. They were assistant department managers and others who had been taking a special interest in their work. At a preliminary meeting I explained that our purpose was not to supersede the judgment of the men who had made the business a success but to supplement that judgment with the energizing power of *new ideas*.

I also explained that the greatest value anticipated was the training of executives and promised that, if the experiment was a success, all new members of the senior board of directors would be chosen from their membership in the future.

The men were given the customary rules to govern their meetings and told to elect two officers—a chairman and a secretary. It was suggested that the chairman and secretary be changed every three months so as to give as many as possible practice in parliamentary procedure. It also was understood that the junior board of directors was to be self-governing. We agreed that no official of the company would interfere with their "closed" or other activities and that every recommendation they made for the advancement of the business would have the serious consideration of the company.

To give the junior executives a further insight into the management of the business it was arranged to have the junior board meet with the senior board about once a month, the junior chairman presiding.

With their own man in the chair we thought that the youngsters would be more inclined to open up during discussions, and that was what we wanted. Another purpose was to demonstrate to the senior members the value of the work of the junior board to both the company and the men.

Nearly Every Idea a Proved Profit-Maker

In May of 1934 I checked the minutes of the junior board and found that practically every recommendation it had made had been adopted, and with some amazingly profitable results.

I had expected some drastically radical proposals and was prepared to send them back for modification, but the work of the board was found to be exceedingly conservative.

Problems tackled by this junior board include such matters as repackaging and redesigning the containers for a number of our products, the setting up of a model store in the general offices to study packages from the consumers' viewpoint, a plan for selection and transfer of clerks in the interests of efficiency, introduction of new office equipment, introduction of new lines, building up overseas business, to mention a few.

The Whole Management is Buoyed Up

The greatest value of the junior board of directors has been the effect it has had on the entire management of the business. An average of one man a year has been advanced from the membership of the junior board to the board of directors of the company. This advancement is considered by the junior executives as a reward for diligent service.

It is customary now for department managers to send their problems to the junior board for suggested solutions. Frequently a subject submitted by a member of the senior board at a meeting is sent to the other group before action, "To see what the youngsters think about it." And I am convinced that the work of every executive in the organization has been improved by the activities of the junior board.

Early in the experiment a friend asked me: "Aren't you afraid the boys will put over some wild and radical plans?" I did anticipate this, because I knew we had some college "pinks" among the younger men; but the board manifested a surprising conservatism. From the first several members attempted to use the board as a means of introducing revolutionary theories, and there were some lively fights over radical proposals. However, the majority of the young executives always applied the acid test: "How will it work?"

The board is patient with the radicals because they admire the fellow who will fight for complete consideration of his suggestions. It is only when a new member fights for fallacies that the rest get rough, and, next to the fixed fanatical theorist, they dislike the chap who agrees with the majority opinion too readily.

The "Youngsters" Won't Carry any passengers

During the first year of its history there were seven changes in the junior board. When I asked why one of the men was fired the chairman told me: "He is a 'yes' man. He never has had any worthwhile suggestions."

It is remarkable how ruthless the boys are when any one of their number stands in the way of progress.

Since 1932 about thirty-two of our young men have served as members of the junior board. Of those who have been thrown out the majority have immediately set about gaining reinstatement, and most of them have earned it.

Within two years we found that the junior board plan was developing the men far beyond our expectations. It used to be that when a position was open we advanced the man who appeared to be the best qualified; but we made mistakes in some instances, and in others it required months of training to familiarize the man with the new work. After two years of board training each man is qualified to fill the next higher job because he has taken part in discussions regarding the problems of that job.

Success Led Us to Appoint this Second Board

Our experience with the junior executive board was so successful that we instituted a factory executive board: nine members, and four observers as probationary members who were not to hold office.

From the inception of the factory board observers from the junior executive board attended the meetings, and factory observers sat in on all sessions of the junior executives.

As the board developed its work it displayed a keen desire to learn more about the operation of the business. Its members studied the various departments, and as they progressed in knowledge they contributed a greater variety of ideas. Their recommendations ranged from one to improve the paste used on labels to others that required radical changes in departments and rearrangement of machinery.

The work accomplished by the factory executives in finding better ways of doing things, in cutting down expense and increasing profits, was invaluable to the company. But of greater value was the attitude the members of the board assumed unconsciously after the first few meetings. They began to show that poise and thoughtfulness which mark all men of ability when they realize their responsibility to their fellows and share the responsibility for the success of a business.

Much has been written about the good old days of management when a proprietor employing several hundred men knew them all by name and ran his business the way he thought best. As the business grew he delegated some authority, because of the limitation of time and energy; but he appointed managers who took his orders, carried them out, and reported back to him. They had none but minor decisions to make and were managers in name only. Their number was fixed by the size of the organization, and their efficiency was rated according to the faithfulness with which they carried out the wishes of the boss.

Yesterday's Aim: "Profits First", Doesn't Pay To-day

One-man management persisted because of the reluctance of the average successful business man to change tried and trusted methods, even when they were known to be faulty. The vast majority of business managers seem to dread even a contemplation of unfamiliar fields. So the one-man system persisted as long as it was able to show profits.

That was the main test of yesterday's business—profits—regardless of its kind of management. But the test of modern business is much greater than its ability to earn cash profits.

In studying the solutions of the problems created by the old system we may find the inspiration for the acceptance of that spirit which must animate to-day's management if it is to succeed. The first grave charge against the one-man system is that it created an organization with only one thinker. This does not mean that others in his organization will do no thinking about the business beyond their immediate concerns; but they will invalidate their constructive ideas by not freely

(*Continued on page* 28)

"... This prevalent but fatal reluctance to consider *New Ideas*"

1920: *"Sounds a jolly good idea, let's have a look at it."*

1926: *'Well, I don't know, I might consider it."*

1932: *"Sorry, too busy to give that any attention just now."*

1938: *"No . . . No . . . I'm entirely satisfied with things as they are."*

MANAGEMENT *Notes of The Month . . .*

Fidelity Bonding: Better Cover, Less Trouble

SOMETHING new and very favourable to business men who need employees to be fidelity-bonded came to our attention last month.

The long and complicated proposal form for each bonded individual, the fixed limit of indemnity for each individual and various other complexities, are done away with under an entirely new type of collective or "floating" bond.

This new scheme works as follows:

Suppose you want to bond ten employees on the basis of £500 each; instead of taking out ten single bonds at £500 each, i.e., £5,000, you could take out a bond for £3,000 (or larger or smaller sum as you thought necessary) which would float over all the employees. Under this arrangement, suppose one employee defaulted for £2,000 (four times the amount of his bond), then you would be fully indemnified for the whole amount; if two employees defaulted for, say, £1,500 each—you would be fully compensated just the same. The bond "floats" over the whole staff, so that by this method no single employee who may default is omitted.

Another big advantage of this new scheme is that if, during a current year, you wanted to bring under the bond any employees additional to the ten already bonded, they will be automatically included *without additional premium, and without it being necessary for you to notify the insuring company*. The premium is not raised to cover the increased staff until the bond is renewed at the end of its twelve months.

The only condition under which this new scheme is inoperable is in the case of staff employed on a commission only basis.

Compared with the old type of system under which a complicated proposal form is needed for each bonded individual, and under which only the sum named in each separate bond is recoverable, no matter how much in excess may be the default, the new plan is nothing short of revolutionary in its convenience to employers.

We shall be pleased to tell any inquirer where he can get further particulars.

●

Complaints Help Them To Beat Competitors

IN far too few manufacturing concerns do complaints from customers receive attention from the really responsible management. Yet complaints, seen in the right light and handled intelligently, can form a very useful guide to work improvement.

In one concern that we visited last month an inquest on complaints is held every week, though in the case of a serious complaint an investigation is always held at once.

The ordinary routine inquests, however, are handled like this: All complaints—of whatever nature—are put before the managing director. After examining them he has copies sent to each department in the works or office concerned in the complaint. This gives the people there time to look up the facts.

On inquest day all "interested parties", with their evidence, meet in the managing director's room—not to receive censure, but to discuss points in a constructive manner.

The fact that the chief himself presides ensures that all decisions arrived at have full official backing for immediate action. This managing director said to us: "The quick and intelligent use of complaints from users is one of the means through which we have put our products ahead of competitors'. Next to our own research department I regard users' complaints as our best source of ideas."

●

Give Employees The Facts

THE management of Vauxhall Motors, Ltd., Luton, have done a very useful thing in the issue to all its employees of a special pocket booklet about the Vauxhall products. Many firms could benefit by following this example.

A. F. Palmer Phillips, Director of Sales for Vauxhall, told us that the issue was the result of initiative on the part of employees themselves . . . anyway, here is the letter which was given, with a copy of the booklet, to every member of the staff. The text explains the idea:

"I have received several letters from members of our Factory staff asking if it would be possible to supply them with details in handy form of the major specification features of Vauxhall cars and Bedford trucks with prices, and thus enable them to answer correctly questions which their friends ask them about our products.

"It is very pleasing to hear of this keenness on the part of our fellows to talk about the Company's products, and I feel sure that a lot more could be done in this direction, for it seems only natural

FACTORY ACT POSER SOLVED

The new Factory Act involves you in obligation to produce certificates, signed by a *"competent person,"* as to your plant worthiness.

Who is a *"competent person"*?

Answer to this problem is on *Page* 36

This Plan Is Helping *Towards the Holiday 'Spreadover'*

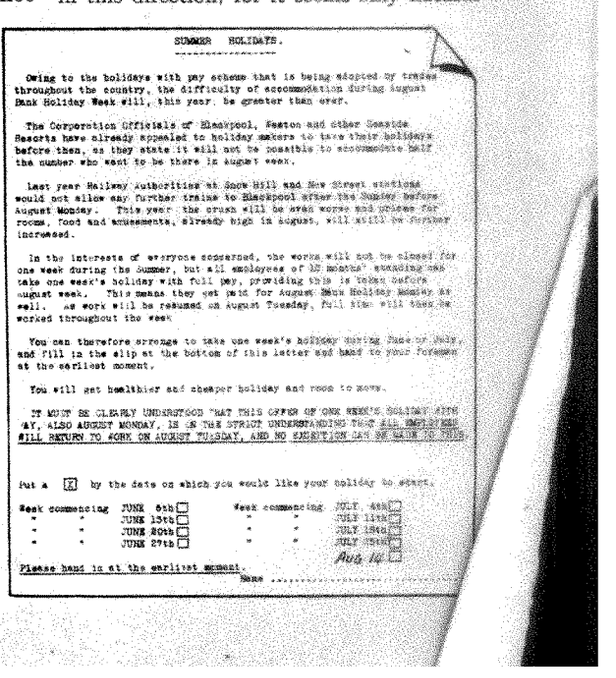
AN effective and equable plan to induce employees to "stagger" their holidays is being used by W. A. P. Watson, Ltd., manufacturing jewellers, of Birmingham, employing about 150 workpeople.

Starting this year, they arranged to give paid holidays, and drew up the form shown here. Later, however, the company found that a number of employees were, for family reasons, compelled to take their annual holiday during August. It was decided, therefore, to extend the scheme to include the August week in those cases where an earlier holiday was impossible.

The response to this whole arrangement, the company say, has been very gratifying and has resulted in the following total percentage of employees being absent in any one week:

Week commencing	13th June	2%
,, ,,	20th ,,	2%
,, ,,	27th ,,	4%
,, ,,	4th July	8%
,, ,,	11th ,,	11%
,, ,,	18th ,,	18%
,, ,,	25th ,,	20%
August Bank Holiday week		35%

It will be seen that the absentees are spread as well as possible, even the last two weeks being not nearly such a drain on the staff as is normally the case when no attempt at a spreadover is made.



SUMMER HOLIDAYS.

Owing to the holidays with pay scheme that is being adopted by trades throughout the country, the difficulty of accommodation during August Bank Holiday Week will, this year, be greater than ever.

The Corporation Officials of Blackpool, Weston and other Seaside Resorts have already appealed to holiday makers to take their holidays before then, as they state it will not be possible to accommodate half the number who want to be there in August week.

Last year Railway Authorities at Snow Hill and New Street stations would not allow any further trains to Blackpool after the Sunday before August Monday. This year the crush will be even worse and prices for rooms, food and amusements, already high in August, will still be further increased.

In the interests of everyone concerned, the works will not be closed for one week during the Summer, but all employees of 12 months' standing can take one week's holiday with full pay, providing this is taken before August week. This means they get paid for August Bank Holiday Monday as well. As work will be resumed on August Tuesday, full time will then be worked throughout the week.

You can therefore arrange to take one week's holiday during June or July, and fill in the slip at the bottom of this letter and hand to your foreman at the earliest moment.

You will get healthier and cheaper holiday and room to move.

IT MUST BE CLEARLY UNDERSTOOD THAT THIS OFFER OF ONE WEEK'S HOLIDAY AND PAY, ALSO AUGUST MONDAY, IS ON THE STRICT UNDERSTANDING THAT ALL EMPLOYEES WILL RETURN TO WORK ON AUGUST TUESDAY, AND NO EXEMPTION CAN BE MADE IN THIS.

Put a ☒ by the date on which you would like your holiday to start.

Week commencing	JUNE 6th ☐	Week commencing	JULY 4th ☐
" "	JUNE 13th ☐	" "	JULY 11th ☐
" "	JUNE 20th ☐	" "	JULY 18th ☐
" "	JUNE 27th ☐	" "	JULY 25th ☐

AUG 1st ☐

Please hand in at the earliest moment.

Name .....

that anybody acquainted with a member of the Vauxhall staff should go to him for information.

"Since our own welfare is so closely wrapped up with increasing the sales of Vauxhall products, I feel sure that every employee would like to be able to talk intelligently about our products.

"We have, therefore, issued this small book which can be carried in the pocket. It contains condensed particulars of all our cars and trucks.

"I should just like to illustrate the thought of how widely information could be broadcast concerning our products by word-of-mouth propaganda on the part of our own people. There are some 8,500 of us, and if we each spoke to one friend once a month for twelve months, and that friend in turn passed the information to—shall we say—two other people during the year, it would mean that 300,000 people would have been given information about our products. The figure looks startling, doesn't it, but it is not at all an unlikely assumption, and it does illustrate the immense value of word-of-mouth advertising and what we can do in this direction.

"Every man in the Vauxhall Company has an interest in the success of our Company for it means to us constant employment, besides which we all take a natural pride in the work which we are individually doing and the excellent products which, as a result, we are producing.

(*Signed*) A. F. PALMER PHILLIPS,
Director of Sales."

Dyspeptic Management: Morale Wrecker

A VERY good man has just resigned from a well-known manufacturing concern. He left under circumstances that reflect a fault in management that is still too prevalent. Narrow-minded, destructive criticism that jeopardizes staff morale and disorganizes work.

This man had the title of advertisement manager. But he was more than that. He had not only the commercial qualifications for the job, he was highly artistic and among the first flight of creative men producing publicity matter for a very technical product. A rare combination of qualities.

The culminating point in his association with the firm in question was reached one day when the final design and make-up of a catalogue was submitted to the technical director. The technical director's "pass" was naturally required to ensure accuracy of text and illustrations.

Many weeks of inspiration and exceptional skill had gone into the preparation of this catalogue. After a long, deliberate survey, the technical director returned the "dummy". His only reaction, after rather contemptuously throwing it down on the advertising manager's desk, was to point to the company's name drawn in gold on the cover. Tapping it with his finger, he commented in sarcastic tone: "Why the h—— don't you get the title right; put the 'The' in front of the name!"

WE heard about the blow-up that followed this fatuous jibe—for it was nothing less. Perhaps you can imagine it, boiling up for two years, the final clash of bitterly conflicting temperaments. The technical director, senior in years, cold, cynical, destructive even on a point outside his sphere. The advertising manager, artistic, creative, over six feet of vigorous enthusiasm for the best he could put into his job. It was quite a scene. It ended—to the loss of the company.

Incidentally, the "The" had been left out of the title on the cover in order to secure a balance of design that would have been thrown out by the additional word. But that's neither here nor there. The tragedy is that management in a big firm—to-day, 1938—should be so administered that friction of this kind is even remotely possible.

England to Norway . . . *In Less Than 3 Hours*

This Air Service for Business Men Saves 20 Hours Each Way and Avoids the Discomfort of Sea Passage

By F. T. POULTON
Editor of BUSINESS

A COMFORTABLE 'plane hop of under three hours from England to Norway instead of 23 hours by boat across the most capricious sea around our coasts is a proposition that will at once appeal to executives who need to make business trips (or a holiday trip, for that matter) to and from Scandinavia.

Every weekday, except Wednesdays, *The Norseman*, 10-seated, 4-engined D.H. 86b, of Allied Airways (Gandar Dower), Ltd., takes off from Newcastle airport at 10.40 a.m.

The schedule to cross the 390 or so miles of water and to reach Stavanger at 1.50 p.m. allows for easy flying or adverse winds. Actually, on any normal day, *The Norseman* takes you over, more steadily than a train, in something like 2¾ hours. Breakfast in England, lunch in Norway becomes just routine.

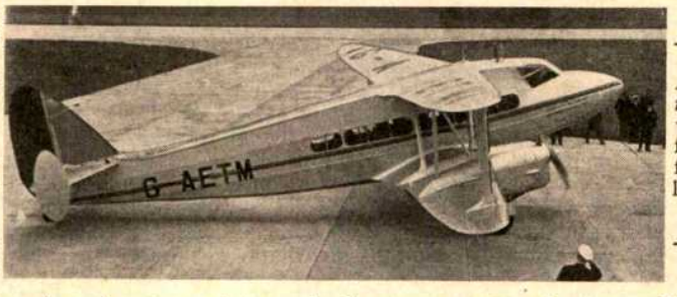
I went over in *The Norseman* last month to try for myself this sea-avoiding travel facility. There was a slight following wind, and we touched down at Stavanger airport in 2 hours 40 minutes. A happy contrast to my last crossing by steamer, between England and Norway: twenty-six hours of acute discomfort, the sea and wind working in distressing combination.

Travellers from London, Manchester and other centres distant from Newcastle can stay the night in Newcastle. Allied Airways pick up passengers at 10 a.m. by taxi from their hotels.

On arrival at Stavanger you can get an air connection on to Arendal, Kristiansand, Moss, and Oslo. From Oslo there is another air connection for Gothenburg, Copenhagen, Stockholm, etc.

From Stavanger on the return trip *The Norseman* leaves at 2.35 p.m. and is scheduled to reach Newcastle at 5.45, but usually she gets in about 10 minutes earlier, connecting usefully with the L.N.E.R. Coronation express for London (King's Cross at 10.30 p.m.). But for London business men who wish to stay overnight in Newcastle I might mention that the 10 a.m. Silver Jubilee is a good train to catch next morning (King's Cross 2 p.m.).

Later this year it is expected to run an air service between London and Newcastle, connecting with *The Norseman*, out and return. There is already such a connection to and from Glasgow.



Allied Airways' *Norseman*, ten-seater express which ferries you comfortably between breakfast and lunch, over the longest sea crossing in Europe

Apart from the enormous saving in time and the increased comfort of this air "ferry" service between Newcastle and Scandinavia there is much greater ease in clearing the Customs, a detail of considerable importance to the busy man. Instead of taking your turn with a crowd of several hundred boat passengers, 'plane passengers pass the airport officials in a matter of minutes.

It might be of interest to mention here that this Newcastle-Stavanger service is the longest sea crossing in Europe that is bridged by air; it is second only to the famous Timor Sea crossing (500 miles) which Imperial Airways cover with the same type of machines, D.H. 86b's.

By Allied Airways, too, is the only means of getting to Norway in transport owned and manned by a British company. All the passenger steamers plying between British ports and Norway are Norwegian owned. No British ships can participate. That also is a fact that is not without some significance.

"I have spent the last 20 years of my life in daily contact with speciality salesmen ● It has frequently been brought home to me that the correct status of this profession has never been clearly recognised—nor has its proper function been clearly stated ● Many business executives, both buyers and sellers, are still vague on the subject ● Here I have made a beginning at setting down what has of recent years been on my mind ● In the end I hope executives throughout the country will come to realise more fully just what further understanding and consideration should be given to members of this indispensable and honourable profession ● I shall be very interested to know how far readers of this paper agree with me" Stanley Walpole.

Something of What I Think about *Speciality Selling*

By
STANLEY WALPOLE, D.Sc.
Chairman and Managing Director
Masson Seeley and Co., Ltd.

●

WHAT is a Speciality? A speciality is an article that renders some new service and is sold more for what it does than for what it is. It may cost as much to sell as to manufacture. It is an article sold where there is no market: it can be sold only by a salesman to the executive head of a concern as a result of an educative process.

This is not a definition but a general description.

The means employed in selling specialities are Press advertising, direct mail advertising, the external house organ for your customers, the internal house organ for your staff and, most important of all, the *Speciality Salesman*.

It is on the salesman that everything depends. All other factors, all of them, are ancillary to him.

In eighteen years' daily experience I have learned to respect him, to like him, and to understand him.

The 'Pattern' Salesman: This Is Ours

To find your speciality salesman you must have a pattern to work to. This pattern is a persistent, resourceful man of high moral courage, healthy, active, agreeable, hard-working. Our pattern is between the ages of 30 and 45. Mentally he is alert and has sufficient executive ability and experience to appreciate the value of the executive outlook and to manage his own affairs properly. In the fortunate case he has the disciplined and analytical mind of a barrister.

If you watch a barrister in court you are watching pure and unadulterated salesmanship. He makes each point once and once only, then he becomes silent and awaits the verdict. The successful barrister has planned his campaign before going in to court.

Lucky barrister—you have a nice court, in an imposing building; wig and gown and precedent to provide your personal dignity; ushers to prevent interruptions; the judge there, patiently listening; all you have to do is to make your case. You are paid for your pleading, even if you lose. Win, lose or draw, you go home in comfort, even though your client that same night may languish in gaol.

Now let us consider our high-grade speciality salesman. He, too, has planned his campaign before going in; he, too, has the disciplined and analytical mind.

But, first, he has to fight his way into the court, past commissionaires, secretaries and such notices as "Travellers only seen on Thursday, 10 a.m. to 12 a.m.". He has even to make the point that he is not a traveller; he has to refuse to be fobbed off on to the buyer, and to make it clear that he desires, and he has to get, an interview with the controlling executive, and with nobody else.

Then he has to conduct his case, unaided in any way. By his own moral courage, by sheer personality, he must plead successfully in a court where he has not been invited, to a man who doesn't want to listen to him—to a judge who may not appreciate the substance of what is put before him, and who may even not give this skilled and knowledgeable man the courtesy of a fair hearing.

And even when he has got the verdict, and even when the verdict is favourable, he has to close the order—he has to get that signature on the dotted line—not next week—not next year—but *NOW!*

On the whole I think the really good speciality salesman has to be a better all-round man than the really good barrister.

The first part of Sales Management is finding such men. If you advertise you get hundreds of replies in a week which come mostly from men who have lost their jobs and are looking for others. You must look elsewhere.

The second part of Sales Management is training.

By this I do not mean the month you have them in your own special school but the continuous training that goes on by means of your internal house organ, your sales conferences, and those of your senior men who work with a man on his own territory and set an example in industry, selling technique, and practice.

This is How We 'Perfect' the Presentation

Apart from the supreme moment of *closing* the order selling is largely presentation. A man buys when he is sufficiently impressed. You may not be able to reduce the whole art of selling to a series of techniques—but you can build up a series of presentations. Men in the field discover these, and when a man discovers a new technique of presentation I confer immortality on him by naming that technique after him. The other men learn these techniques more readily and practise them more accurately if they are named in this way, after their inventors—recognizing that they are born of practice, not theory.

We have a Mr. Carrie. He has been pre-eminently successful in selling one particular thing. I am now trying, in conjunction with him, to reduce his technique for doing this to something clear and crystalline. When we have succeeded so that we can have it on a plate and look at it I shall confer immortality on him by publishing this technique and making every man learn it, practise it and report on the results—and that technique will be called a Carrie-ism.

The golden rule in training is to seize on any habit or technique or discovery

of any kind that brings one man success and teach it to all his colleagues and remind, remind, remind, through your internal house organ, and your letters, and in your conversations. That process must go on all the time, every day.

I have bought almost every speciality there is, and I have treated every speciality salesman I have dealt with as I would like our own men to be treated. I think that no factor has stimulated me to help my men in every way more than this study of other men in action.

When I am called on by a fine fellow who is a credit to our profession I listen to him, watch him, and I am delighted. I say to myself our men must be taught and trained and helped to be like that. And when I see a poor type, making awful mistakes, I pray that none of our men, throughout the country, are making them in our name.

A man has not two personalities—no man can be Jekyll to you and Hyde to your customers. If he is a fine man in his relation to you he will be a fine man in relation to your prospects and customers. An unwritten item on your balance-sheet is reputation; every one of your men carries your reputation *in his hands*.

It is comparatively easy to find men who can sell—but we must have men who can reflect credit on themselves, and us, while doing it.

What a task this is. Remember your men are themselves managers; they know locally far more about the territory than you, at head office, can possibly know. Nevertheless, from your statistical analysis of everything they do, you are in the position of the onlooker who sees most of the game.

If you are worthy of it you will earn their confidence, their respect for your judgment, and they will do as they are told. They will do it wholeheartedly and sincerely, if for no other reason than to please you.

Complaints are Welcome: We Profit by Them

What is the highest compliment a salesman can pay you? I think it is this. It is when he writes you, or phones you, or comes to see you, and says: "Mr. Walpole, I have tried out this latest thing you have told me to do, and I think you are making a mistake."

That man is my blood-brother.

One of the most difficult things you can get men to do is to complain. I encourage men to head their report form COMPLAINT, and, though no other report is necessarily acknowledged, a complaint is always acknowledged, and with real thanks. I *want* complaints—complaints of late delivery, incorrect delivery, technical imperfections, mail late, mail gone astray—all are acknowledged by an appreciative letter. Complaints are the lifeblood of efficiency.

You cannot be too appreciative of complaints, though it takes a long time to train a man to understand that, not only do you like them, but that the department where the complaint lies likes them too. It is much easier for a man to see something wrong and do nothing than to write you a complaint about it, knowing that someone else's fault is involved.

The very last thing a man will complain about is the money he is earning. That is why you must keep a constant watch on this. When you see a man's earnings are below his essential needs you must do something.

Some people think that penury will drive a man on to work. **I don't. In my view penury paralyses a man so that he *can't* work.**

Another difficult thing is to get accurate accounts of failure. An excuse is a slight misrepresentation of the real facts. These reports on failures are important—much more important to Sales Management than reports on success. Success breeds success; but failure is the very godfather of further failure. It is by our mistakes that we learn most.

Look After the Man Who LOSES an Order

Congratulation on success is easy, and it helps a man along to more success. But sympathetic treatment of a man who has lost an order is far more important. He needs your letter of sympathetic understanding far more than the other fellow needs your congratulation. Look at his earnings for the last month; think of his family needs as you know them, then think of what that commission cheque would have meant to him. Then you will understand.

What's Happening in

The Home Markets

See Pages 44 *to* 51

To write this letter effectively you must have the facts, and these facts are hard to get. Men find it hard to understand why you want these facts; they think there is a catch somewhere; they cannot understand how the statistical analysis of failure is so important in leading you to remove its causes. In fact they won't understand until they have learned to *trust*.

There is a cheap telephone service all over the country. This is invaluable. I insist that every one of our men is on the telephone in his home. If he wants to phone me he does so in the evening. I prefer to phone him in the morning, when he is fresh and his mind is receptive and his day's work is about to begin. Arranging it this way, one telephone to the study in my house is ample.

Both at my desk at home and at my office I have a Dictaphone, so that I do not waste time writing. Any action taken as a result of the telephone conversation goes down the pipe there and then, and I have finished with it. The letter is written and signed for me; copies go to my colleagues automatically, so that they know what I have done.

Avoid Isolation

"IN directing men in the field one of the biggest evils you have to fight is the danger of isolation. The 'phone is the great antidote . . . few firms use it—proportionately—more than I do, yet my 'phone bill is but .02% of my turnover."

You may say that this is a sacrifice of my leisure. Not a bit: these men are my friends, and I don't see anything you could call "work" in planning with one's friends success in which we have a common interest.

You may say that in doing this I am usurping the functions of the Sales Manager. Perhaps so, but then in our case the Sales Manager, the Assistant Sales Manager, the Sales Promotion Manager, and myself work together in most intimate co-operation.

The phone in the house of a salesman is valuable in other ways. Every man dislikes that night away, at the far end of his patch. He may drive the miles to get home and drive back next day. That wastes time and energy for him and you. A man will go farther afield if he can still keep in touch, by phone, with his home.

In fact he *must* have a telephone. A successful man, before he faces the day, has it planned. With no telephone his planning is impossible.

In directing men in the field the biggest evil you have to fight is isolation.

(That, I take it, is the strongest argument in favour of decentralization; but we are young in this game: we have only had 18 years' experience, and our attempts at decentralization have been unfortunate.)

So we have to fight against the effects of isolation all the time. And in this the telephone is unparalleled—you actually talk to him, and all that is in you goes over the wire. I believe few business houses use the phone more—proportionately—than I do. Yet my phone bill is roughly only 0.02 per cent of my turnover. Is that too high a price for what we have found to be the most unfailing remedy against Isolation?

The speciality salesman is no mere traveller calling for orders. He has more than the ordinary run of men, a value which may be expressed as a product of two factors: (1) his intrinsic value, (2) how he feels.

His intrinsic value is your biggest problem at the time you engage him. How he feels is up to you when once he enters your service, and it is up to you all day, every day, week in and week out, so long as you both shall live.

A Sales Manager should be available to his men: (1) when they have brought in big business, to learn how they did it and express appreciation; (2) when they are doing reasonably well, to stimulate them; (3) when they get no business, so as to combine sympathy with practical help, to give them courage to go out again and, if possible, to go with them. The finest sales management is done on the territory, working with the man.

Harley Street Paid to Keep Our Men Fit

A man's private troubles are also the troubles of the management: to leave a man "to get on with it" is to waste valuable time. I am seldom so angry as I am with a man whose results have fallen off for some private reason I could readily have rectified.

Take one instance. It is generally known that we are all liable sooner or later to lumbago, neuritis, rheumatism, and kindred ills. These things cripple a man, sometimes for a day or two, and worse still, the ailment is bound to recur. Luckily,

(*Continued on page* 29)

The Mechanical Horse
For 'Shuttle' and Short Distance Hauls

Operation and Costs of the *Scammell* Tractor-Trailer Units

Test Conducted by
R. TWELVETREES, A.M.I.Mech.E.

TWO factors that are of very great importance to many transport managers are: (1) Economy in big hauls over short runs, and (2) Manœuvrability of vehicles in confined spaces.

The first is demanded by conditions such as shuttle runs between factory and factory or dock within industrial areas, and so on. The second is demanded by the confined and crowded spaces in railway yards, wharfs, docks, warehouses, etc., and the congestion of narrow streets in the manufacturing centres.

These conditions have brought about the "mechanical horse" type of vehicle, the modern development of the patient beast that, until just now, was supreme in this difficult haulage field.

In February, 1937, I dealt with two well-known types of mechanical horse, or tractor-trailer units, but last month I went to the Watford works of Scammell Lorries, Ltd., to investigate the latest developments of the units bearing this famous name.

The Scammell range of mechanical horse units comprises two standard models for hauling loads from 3 to 6 tons and 6 to 10 tons respectively, according to the types of trailer employed. Both types are similar in design and differ only in dimensions. The smaller model has a power unit rated at 10 h.p., developing 24 b.h.p.; the larger has a 15 h.p. engine, developing 39 b.h.p.

My inspection of the work in progress on the mechanical horse assembly line revealed a high standard of material and workmanship, checked at every stage by a rigid system of inspection based on high precision limits.

This Coupling Method Important to Operators

From the viewpoint of the transport operator an important point of interest in the mechanical horse unit lies in the turntable and automatic coupling device. Ingenious to a degree, this operates with amazing ease and simplicity.

The forward portion of the semi-trailer, or carrier unit, is fitted with a turntable to which is attached a retractable under-carriage carrying two wheels to support the trailer when detached from the motive unit. A transverse oscillating beam on the turntable is provided with two small flanged wheels at its extremities. The latter engage with two corresponding ramps or runways mounted on the tractor unit frame which is fitted with shock-absorbing buffers to eliminate any impact at the instant of coupling.

When the tractor has been backed into the coupling position a locking device of two steel claws engages the rollers on the turntable oscillating beam and secures the two units firmly as one.

A lever in the driver's cab actuates the disengaging mechanism, and the whole design permits rapid coupling and uncoupling, even should the tractor be at an acute angle with the trailer or when both are standing on uneven ground.

This "18-seconds Dead" speeds up 'Shuttle' Work

The time required for coupling and uncoupling is usually expressed by manufacturers of this class of vehicle as a "few seconds"; but since the time factor is important in shuttle transport operation I asked for a demonstration so as to place a definite value upon the speed of this operation.

Accordingly, a complete tractor-trailer unit was driven to the roadway outside the Scammell works, and, at a given signal, the driver was instructed to uncouple the tractor, drive it round in a circle on full lock and then reverse into position so that the automatic coupling device came into action.

This manœuvre occupied exactly 18 seconds, after which the combination was ready to proceed in the ordinary way.

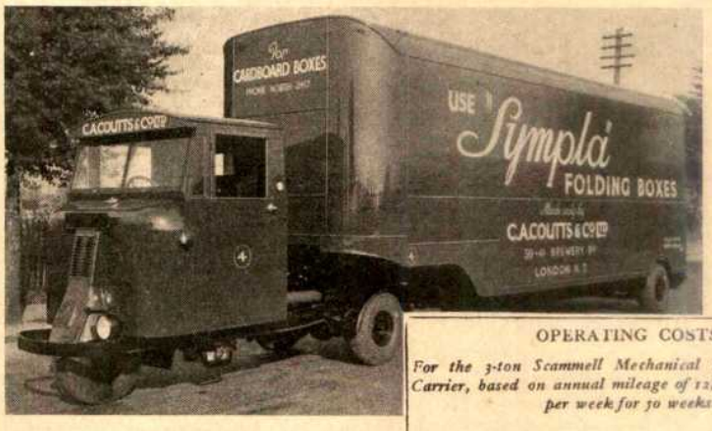
By virtue of the instant detachability of the motive unit two or more load-carrying semi-trailers can be used, so that while one load is being delivered other loads can be placed on additional trailers in readiness; the tractor and its driver are not obliged to stand idle while loading work is in progress.

Another great advantage of the separate motive unit is that several different *kinds* of trailers can be used with one tractor when different classes of loads have to be carried. When operated to the best effect the mechanical horse can therefore be kept on the move continuously with one or other of its trailers.

Capable of turning in less than its own length, the Scammell mechanical horse with its trailer, or trailers, provides the solution for dealing with traffic in congested thoroughfares and at terminal points.

Another important advantage is the great convenience of being able to house the units in places inaccessible to other

(*Continued on page 42*)



The vehicle at the top of this page is a Scammell 6-ton Mechanical Horse Motive Unit with 18-ft. platform carrier. Coutts & Co.'s vehicle is a 3-ton, drop frame semi-trailer with a special big-capacity single-skin box body

OPERATING COSTS

For the 3-ton Scammell Mechanical Horse and ONE Carrier, based on annual mileage of 12,000, i.e., 250 miles per week for 50 weeks.

	£	s.	d.
Capital Cost of Complete Unit	370	0	0
Depreciation of machine, less tyres, over six years	57	0	0
Annual Licence	25	0	0
Insurance	18	0	0
Interest on capital at 5% over 6 years	11	0	0
Tyres	15	0	0
Petrol—15 m.p.g. at 1/1d.	45	2	0
Oil—750 m.p.g. at 3/6d.	2	18	4
Drivers' wages at £3 per week	156	0	0
Maintenance—grease—cleaning materials, etc.	20	0	0
Garage rent, rates, lighting, etc.	15	0	0
Total standing & running costs p.a. (50 working weeks)	365	0	0
Total standing & running costs per week	7	6	0
Total standing & running costs per mile			7.00

Costs, Under Similar Conditions, of 6-ton MECHANICAL HORSE and ONE Carrier

	£	s.	d.
Total standing & running costs p.a. (50 working weeks)	435	12	0
Total standing & running costs per week	8	14	3
Total standing & running costs per mile			8.02

This Simple System Turned Over Our SALES and PURCHASES Analysis from . . .

Slow Motion to *Double-Quick Action*

Says

A. P. WISE, A.C.A.

Secretary

L. Keizer & Co., Ltd.

THE collation of purchase and sales statistics, although the soundest foundation on which an executive can plan his buying and selling programme, is still a much neglected department of business.

These statistics, to be of real use, must not merely consist of aggregate details of purchases and sales: they must be prepared so that one can see from them, *at a glance,* whether the company's buying contracts precisely meet requirements. Also from them the sales executive should be able to see the present *trend* of sales and be able to forecast, with reasonable accuracy, the company's future sales.

Much Work but Poor Results by Old Methods

The method in which these statistics are compiled, and the extent to which they are calculated, depends on the policy of the company concerned. In our case we found that keen competition and periodical changes in the popularity of woods which our customers were requiring (owing to fluctuating marketable values) caused the directors and the buying and sales departments to call constantly for detailed statistics which, under the old system of extraction and analysis, could be obtained only after much work. Even then the results could only be approximate. It was decided therefore to install a more detailed and accurate system of purchases and sales analysis.

After studying the various systems for obtaining this information cheaply and speedily we decided that the Paramount system for the analysis of purchases and sales and Visible Index Records (both products of Copeland-Chatterson Co., Ltd.) for our publicity and sales departments were ideal.

We had been using the type of multiple invoice set, used by most up-to-date firms, by which we were able to get at one operation the customer's invoice, duplicate invoice (for sales analysis purposes), the posting medium, branch and traveller advices, delivery order and stock record copy. The delivery order and stock record copy were detached from the set after typing and handed to the warehouse office for attention. These, on completion, were returned to the invoicing and stock departments. After seeing that the customer's order had been delivered as required the remainder of the set was re-inserted in the typewriter and the footage, price and invoice value entered and extended, giving—

(1) Completed invoice for despatch to customer;

(2) Posting medium for accounts department;

(3) Duplicate invoice for sales analysis;

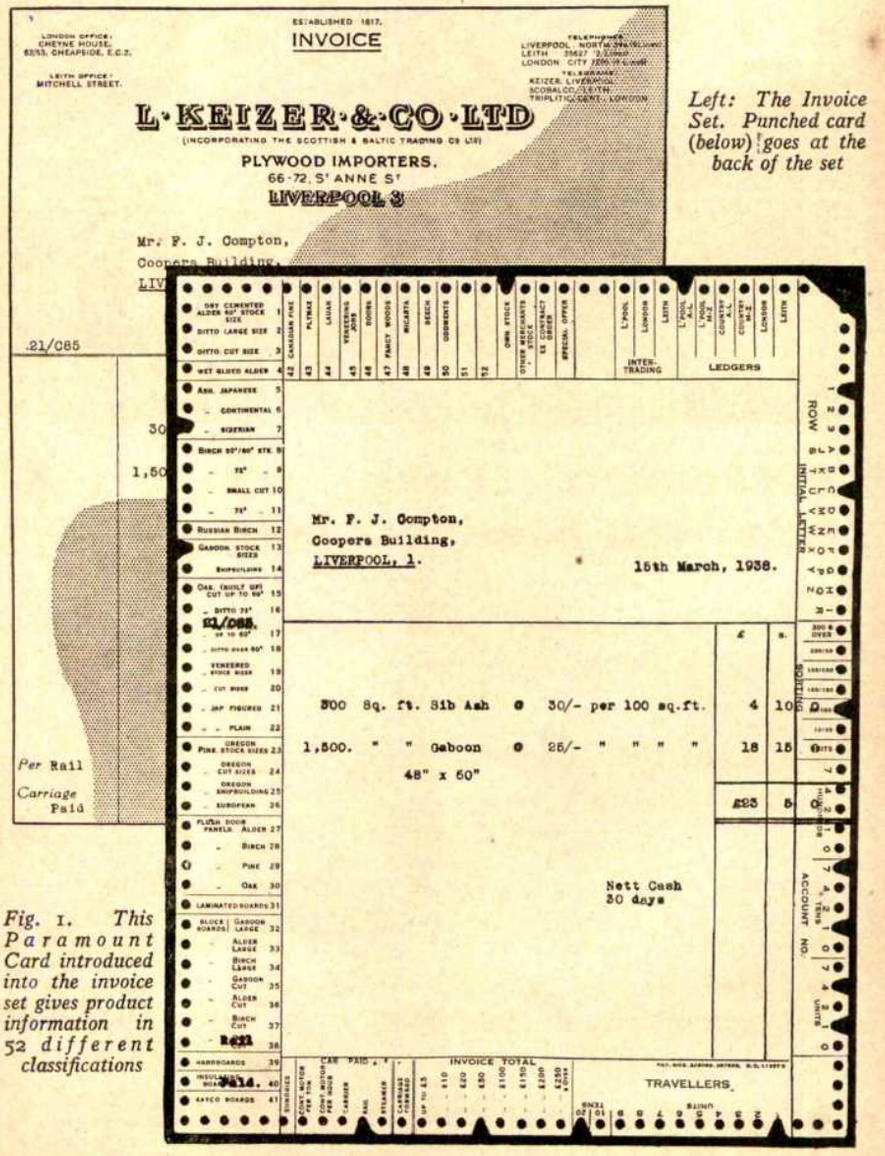
(4) Copies for branch, traveller concerned, etc.

Until two years ago the duplicate invoice, in addition to acting as a check on all invoices being accounted for, was also used for sales analysis, and it was a slow job either to hand-sort and list under the headings of the various woods and sales per traveller, or to enter them in an analysis book, and obtain the same results.

It was, of course, fairly simple to agree our analysed totals with the ledger control in £ s. d., but this did not go nearly far enough for our needs. It became essential for the company's stock control, sales drives, etc., to account in values and quantities for the detailed sales month by month of each class of wood, and to be able to break these up into:

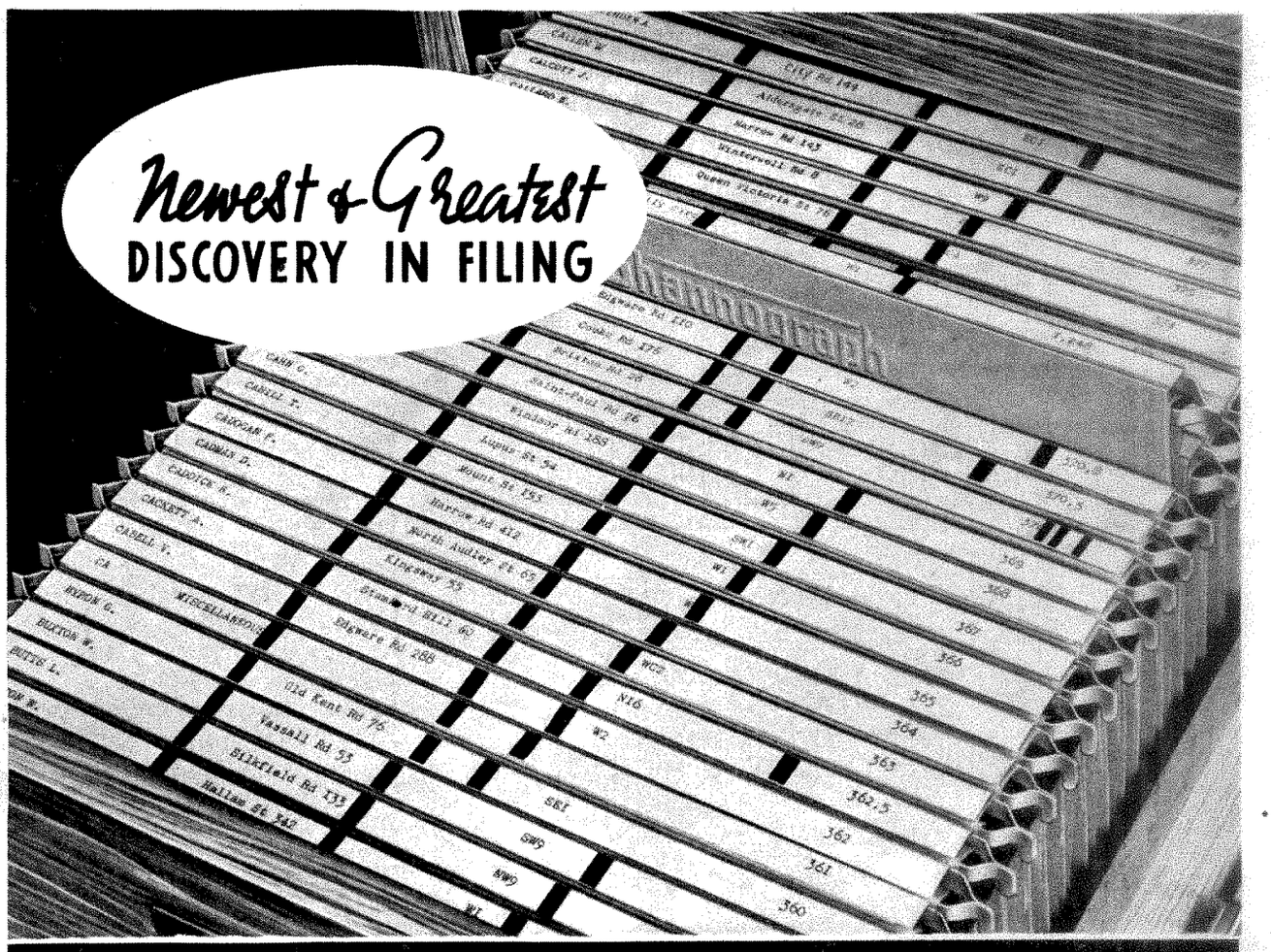
(1) Quantity and value of sales of each wood;

(2) Sales to each customer and total of each wood;



Left: The Invoice Set. Punched card (below) goes at the back of the set

Fig. 1. This Paramount Card introduced into the invoice set gives product information in 52 different classifications



THE SHANNOGRAPH

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Different from any Filing you have ever seen

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- Maintains perfect filing order automatically . . . . . .
- Fits any standard filing drawer
- Reduces all subject indexes to instant visual identification . . .
- A "split-second" locates any folder

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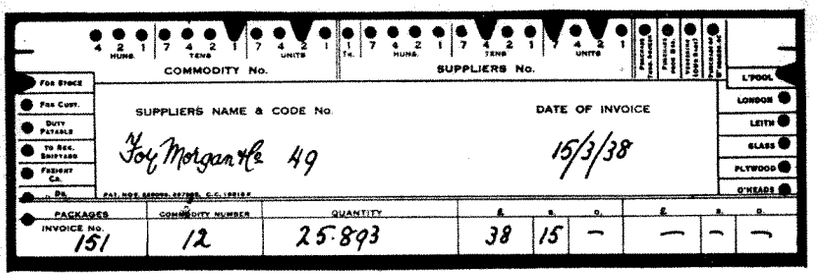
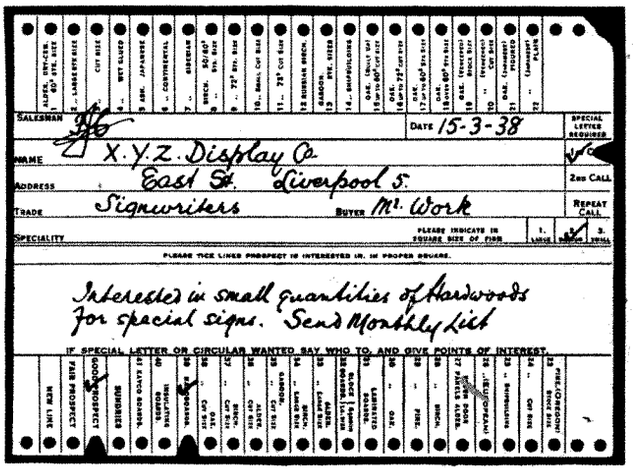
BIRMINGHAM - BRISTOL - LIVERPOOL - MANCHESTER
NEWCASTLE-ON-TYNE - - GLASGOW (Agents)

4941

(3) Sales for each traveller;
(4) Sales by districts (as distinct from travellers);
(5) Sales ex. our own stocks, value and quantity;
(6) Sales ex. contract orders, value and quantity;
(7) Sales ex. other merchants' stocks, value and quantity;
(8) Sales ex. stocks of branches, value and quantity;
(9) Sales from special offers;
(10) Sales of new lines taken by existing customers;
(11) Sales to new accounts, also by traveller and district, or by special advertising;
(12) Sales of new lines.



Above, Fig. 2



Centre, Fig. 3 : Below, Fig. 4

To get all this information we introduced into the invoice set a further copy, the Paramount card. This, being typed with the invoice, is an exact replica, and by using the Paramount sorting system we can extract whatever details we want.

The Paramount sorting system is based on the use of a card with holes punched along one or more of its edges. Against each hole is printed a code number, description or an item of information. We therefore designed a card to give us an analysis of 52 classes of plywood, wallboards, insulated boards, doors, etc., one hole for each class or type. By punching the hole or holes of the woods concerned on each Paramount invoice card we can rapidly sort the cards into the numbered classifications and compute the total of each value and quantity, either with or without the aid of the comptometer. We also provided on the card for other information we needed (see classifications 1 to 12). This was again rapidly obtained by clipping the cards in the requisite holes and by totting the resultant figures on the comptometer. Lay-out of the card is shown in Fig. 1.

I think now the reader will have a fair idea of the method of sales analysis; it will, perhaps, be useful now to mention the complementary purchase analysis. In this case there is no medium available from which to prepare speedy statistics as the suppliers are not concerned with anything other than the correct recording of the goods purchased, their price and invoice value.

We designed a small card on which, apart from the entries in the purchase journal that are necessary in one form or another for recording suppliers' invoices, we enter the supplier's name, code number, invoice date and amount (value and quantity), at the same time punching the card to classify the purchases into: (1) Branch concerned; (2) Wood; (3) Whether for stock or customer; (4) Whether contract purchase or ex. other merchant, etc.

As these cards are only used for actual purchases, and not for the multitude of overhead expenses, it is not a difficult or long job to keep them up to date. Moreover, as they are not part of our double-entry system of book-keeping they can be sorted at any time. At the month end they are totalled and agreed with the total purchases, as per the purchase journal, and then sorted to our requirements as just mentioned. Illustration of the card is given in Fig. 2.

To record the individual sales of each customer we have installed Bardex visible equipment. For each customer we created two record cards, one takes care of each sale made to the customer, the other gives full details of the customer, such as credit standing, class of business, name of representative to be interviewed, credit limit and monthly summary of sales to the customer in total and in respect of each wood. The daily card has a visible edge protected by celluloid cover on which we can signal each month the traveller's calls, each month in which an order is received, the numbers of the woods which the customer is buying regularly, and the numbers of the woods which he is buying for the first time.

How The Coloured Signals Help

At the side of the pocket we can also signal any special information to help the sales department, such as whether the buyer concerned might be interested in bulk offers, or other special offers, etc.

This visible-edge signalling we find valuable. We use it to keep our mailing-list always up to date, and thereby save stationary through refraining from sending sales matter about any particular wood to buyers who are not interested in that wood.

(*Continued on page* 32)

SUMMARY ON Dry Cemented Alder
Quantities shown in Cubic Meters — Month 1938

	STOCK			FOR CUSTOMER		
	L'POOL	LONDON	LEITH	L'POOL	LONDON	LEITH
Quantity in transit at 1st of month.	100 00					
Quantity in Warehouse at 1st of month.	2000 00					
Total on hand at 1st of month	2,100 00					
Quantity purchased during the month:-						
Ex Contract	500·00					
Ex Other Merchant	– –					
Ex Liverpool	– –					
Ex London	25·00					
Ex Leith	50·00					
A Quantity on declaration at 1st of month	2,675 00					
B Quantity declared during the month	1.000 00					
	750·00					
	4.425·00					

	EX STOCK			FORWARD SALE		
	L'POOL	LONDON	LEITH	L'POOL	LONDON	LEITH
Quantity sold during the month	1,000·00					
Quantity sold:-						
To Liverpool.	– –					
To London.	50 00					
To Leith.	25. 00					
Quantity in transit at end of month.	1.025·00					
Quantity in stock at end of month.	575 00					
C Quantity shipped during the month	2,675·00					
D Quantity on declaration at end of month	500·00					
	1,250 00					
	4.425·00					

NOTE:-
Quantity on contract still undeclared:-
Quantity on reserve:-

On Active Service for 35 years!

SUPPLIED 1902—STILL GIVING COMPLETE SATISFACTION

Messrs. Joseph Lyons & Co., Ltd., write :—

"We are glad to say—that the *ledgers installed as long ago as 1902* are still giving us complete satisfaction."

The italics are ours. The claim is NOT ours. It is made by a firm who, following their original purchase, have bought over 700 of our Binders.

How long have you had your Binders ?

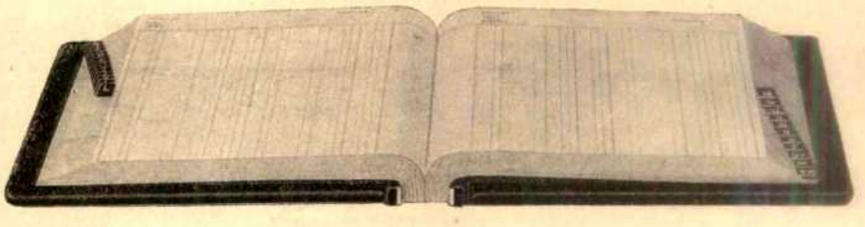
Are they giving complete satisfaction ?

Will they continue to do so after 35 years ?

COPE-CHAT LOOSE LEAF BINDERS and Requisites are made in every type—Thong, Post, Section Post, Spring, etc., for pen or machine posting, and are made in a size which will suit your forms. Nothing but *proved* materials and highly skilled craftsmanship could produce these attractive Binders, which are finished in many coverings and edged with "Hardite"—an almost indestructible material of pleasing touch and shade. We *could* win your confidence by illustrating tests—such as that of a Gloucester County Council steam roller rolling and re-rolling over a binder taken from stock—but you do not buy a binder to be run over. You buy it to give lasting service under your own working conditions. The best test you can give a Cope-Chat Binder is to use one.

COPE-CHAT Quality costs no more. **WHY NOT** SEND US YOUR ENQUIRIES *NOW* ?

Note the flat opening. No binder of any make will give you better writing facilities. It is a pleasure to use.



FULL DETAILS GLADLY BY RETURN POST

THE COPELAND-CHATTERSON CO., LTD.

EXCHANGE HOUSE, OLD CHANGE, LONDON, E.C.4

BRANCHES THROUGHOUT THE PROVINCES

Faster Work and Lower Costs Through *Modern Equipment in this Mailing Dept.*

By introducing new equipment and methods, *SHELL-MEX & B.P., LTD.*, have increased the efficiency of this whole department and have opened up a new and vital teleprinter section. By these results they have shown again that there is always scope for improvement, even in a smoothly running organization.

One of the most important items contributing to the speed-up is this electrically operated Universal postal franker. With it one girl franks out-going mail at a speed of 4,000 an hour

MANAGEMENT'S vital need of instant and close communications between departments and individuals suggested the way to expand activities of the department. In a firm of this type, with branches of various kinds all over the country, a major need is to get co-ordination between head office, branches, representatives, etc. Important decisions, for example, must be sped by shortest routes. Telephone or telegraph are the two methods mostly used, but both have disadvantages. Over long distances there is often difficulty in hearing correctly what is said. There is no check on messages sent or delivered. It is, too, a costly method of communication. And with the telegraph there are chances of delay, error in transmission, and so on. To send long messages is also costly.

Teleprinters Have These Distinct Advantages

These disadvantages do not apply to teleprinters. All messages sent or delivered are checked. For instance, the operator sees the message he is sending just as a typist sees the letter she is typing. And messages received are also typed as though the sender is sitting before the machine through which the message is coming. Thus, actual copies of messages sent and received are always on hand. Speed is present, too. Shell-Mex & B.P., Ltd., never take more than three minutes to get a message going through to its destination.

A survey showed them that they had sufficient volume of work to justify installation of teleprinters. From every point of view the move was good policy and sound management. They (*a*) put all mailing department work on a more up-to-date basis, (*b*) gave new scope to the staff, (*c*) gained more "finger-tip" control of all phases of the business, (*d*) eliminated any chance of the department becoming a "bottleneck".

The normal work of the department was speeded up in two ways: (1) introduction of office machinery; (2) use of new methods. Both have cut time and made possible the staffing of the new teleprinter department with "mailing" men.

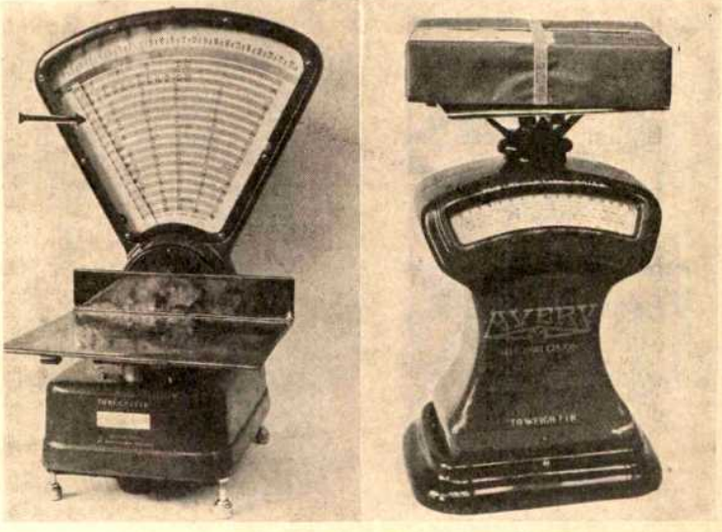
Apart from commissionaires, who collect and deliver post, the department employs about 30 men. Each day these men handle over 24,000 pieces of mailing matter. In addition to this normal flow there are "specials". A recent publicity scheme, for example, called for the dispatch of 139,000 two-piece letters.

Most of this work is done by machines. The letters that go out each day, for instance, are put through a postal franker at a speed of 4,000 an hour. This is an enormous saving of time as compared with the hand methods normally used. Sealing envelopes is another example. A machine now handles this work in a fraction of the time taken by mailing clerks.

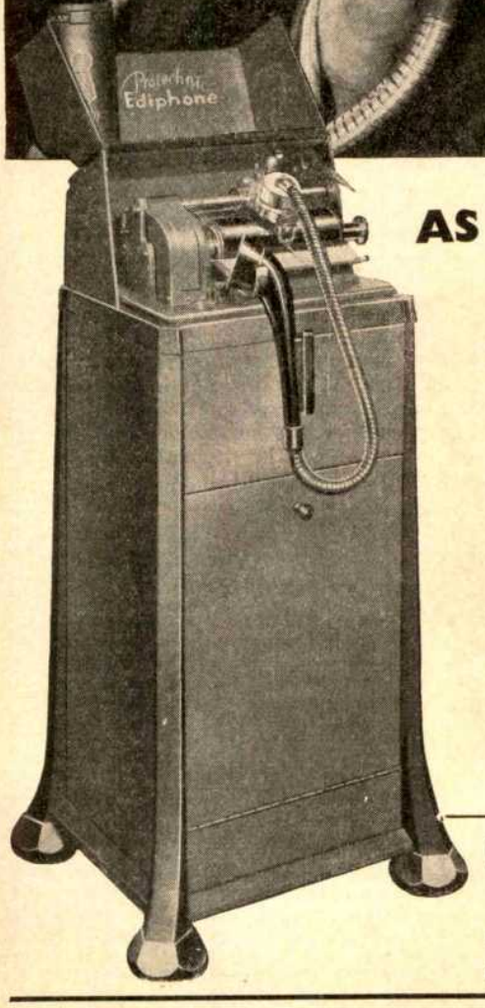
Machines Are Linked in With Effective METHOD

Other machines include a folder, two letter openers, an electrically operated duplicating machine, an addressing machine, and two postage scales, one for letters and the other for parcels. These scales provide a good instance of time and expense saved on a simple job. Each indicates at a glance the cost of postage in Great Britain, Empire, or foreign countries. There is no need for the postage clerk to put on an extra 1d. or ½d. stamp "to be safe" nor waste time looking up the charge scale "to be

(*Continued on page* 30)



Here are the cost-cutting and time-saving parcel and letter scales. On both machines correct weight and postage payable are shown at a glance. No need to look up lists of rates. Parcel scale (left) shows, where arrow indicates, all the chief countries in the world. A pointer, swinging across the chart, shows at once cost of postage, each cost being shown on the line opposite country's name. Postage limits, special charges, C.O.D., etc., are all given. Capacity of this type of scale is up to 22 lb. Letter scale, on right, shows inland, British possessions, U.S.A. and foreign rates. Biggest capacity of standard models of this machine is 2 lb.



AS TIME-SAVING AS THE TELEPHONE

and as simple to use

By avoiding dictation delay, Ediphone Voice-Writing saves you an average of an hour a day. Immediately your thoughts occur to you the Ediphone is ready to take them down. Memoranda — staff instructions — letters — are spontaneous. Your mind is immediately freed for other business . . . Office routine becomes smoother, more efficient. As mechanically perfect as the telephone or typewriter, Ediphone Voice-Writing is now being found equally indispensable in all progressive offices throughout the country.

EDIPHONE SYSTEM OF *Voice-Writing*

WRITE FOR FULL PARTICULARS OR FREE DEMONSTRATION AT YOUR DESK

Every responsible executive is invited to "sample" Ediphone Voice-Writing, without obligation. You buy nothing until the Ediphone proves its advantages.

THOMAS A. EDISON Ltd. Victoria House, Southampton Row, W.C.1

BRANCHES AND DEALERS IN ALL PRINCIPAL CITIES

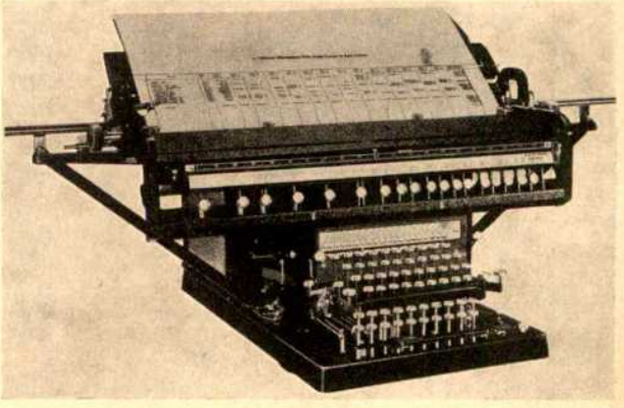
The Greater Part of Business Is . . . *Figure Problems*

. . . here is where many of the answers are born

This Burroughs adding machine is a well-known piece of office equipment but the firm is still finding new jobs for the 'adder' to do. The latest work is (a) discounts and (b) division. (See text on new uses for machines)

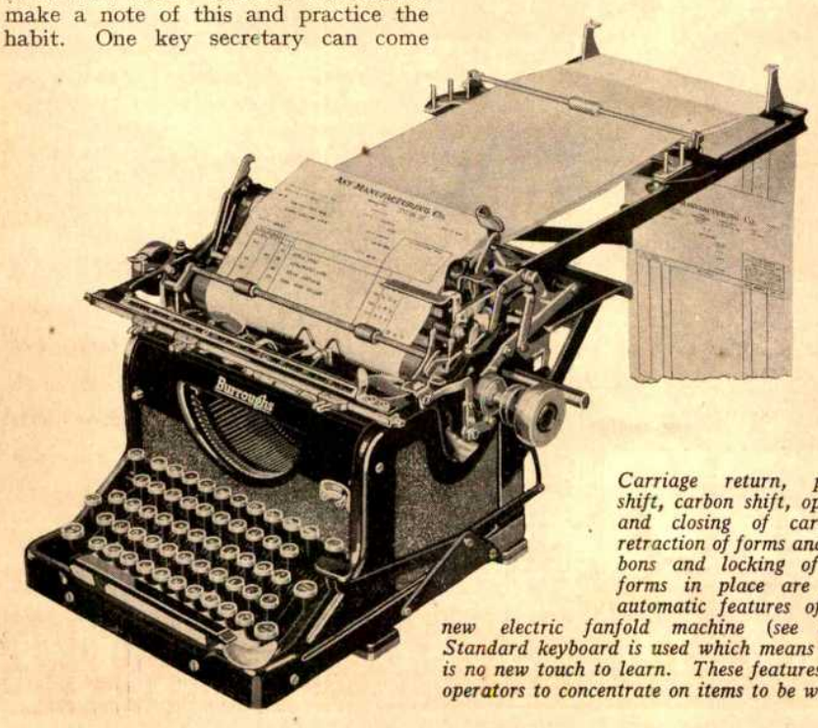
APART from any new types of equipment which may be on view, it is always worth an executive's time to visit the annual Office Equipment Exhibition held by Burroughs Adding Machine, Ltd., to see the developments made during the year to the firm's already wide range of machines. That is one reason why we found this year's exhibition so interesting when we visited it last month at Chesham House, Regent Street, London, W.1.

If the success of shows of this kind is judged solely on attendance, then the Burroughs' exhibition scores full marks. Every demonstrator was busy, and a point we noticed with considerable interest was that several visiting executives had brought their personal secretaries with them. Business men should make a note of this and practice the habit. One key secretary can come away from the show with the knowledge of many new cost-cutting, time- and labour-saving methods and ideas that can be passed on to office operatives.



Selective skip tabulation is a big point about this new multiple total typewriter accounting machine. Amounts can be printed and added or subtracted at will in any one column on forms up to 30 in. wide

These new uses and wider application of machines do not, of course, just happen. Burroughs employ a special research staff whose sole job is to discover every possible kind of work the machines will do, how existing methods can be improved and speeded up and how the efficiency of the machines themselves can be increased. It is worth while keeping informed about the discoveries of the research staff because they show you how to get more output from your existing office equipment.



Carriage return, platen shift, carbon shift, opening and closing of carriage, retraction of forms and carbons and locking of new forms in place are some automatic features of this new electric fanfold machine (see text). Standard keyboard is used which means there is no new touch to learn. These features help operators to concentrate on items to be written

Take a typical example: the adding-listing machine which has the short-cut keyboard. It is one of the best known of Burroughs' products and is certainly not a new type, yet we were shown at least two recently discovered uses for the machine: (1) discounts; (2) division (pro-rating-percentage of department totals to whole). In the case of discounts, the new short-cut method reduces the number of operations by about half. The principle is to subtract directly the discount instead of multiplying by the complement of the discount or by the decimal equivalent of the chain discount.

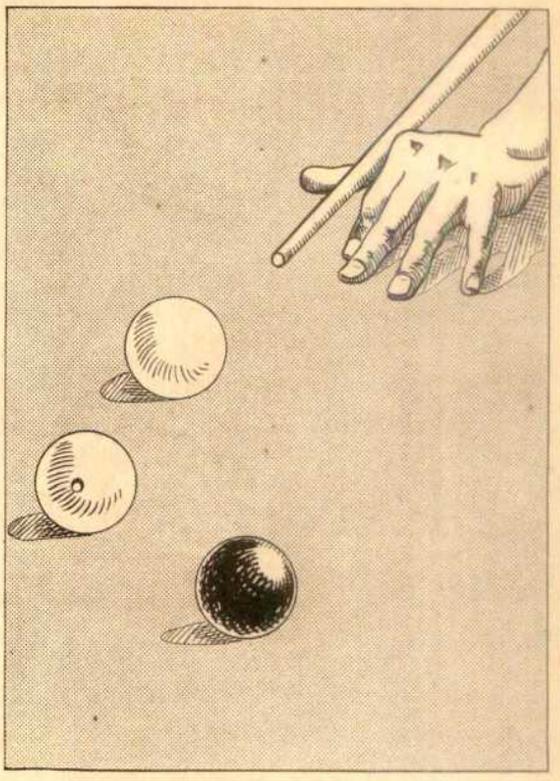
This Was An Interesting New Product

A new piece of equipment on show was a multiple total typewriter book-keeping machine equipped with "selective skip tabulation". This enables amounts to be printed and added or subtracted at will in any one of a large number of columns on forms up to 30 inches wide. Amounts can be entered in any column or to any classification by use of a single key. For example, you enter the amount on the keyboard then depress the column selection key; the carriage moves to the right column, where the amount is automatically printed and accumulated.

The computing mechanism and the

(*Continued on page* 26)

"Smooth as a Billiard Ball"



Proverbial? Yes—but it only indicates that however accomplished the player may be he cannot be expected to bring off the perfect shot without materials that assure precision and smooth running.

However efficient your stenographer may be, she cannot keep up, for hours on end, a peak-high production-standard on tedious tasks such as billing, unless she uses the correct stationery for such work.

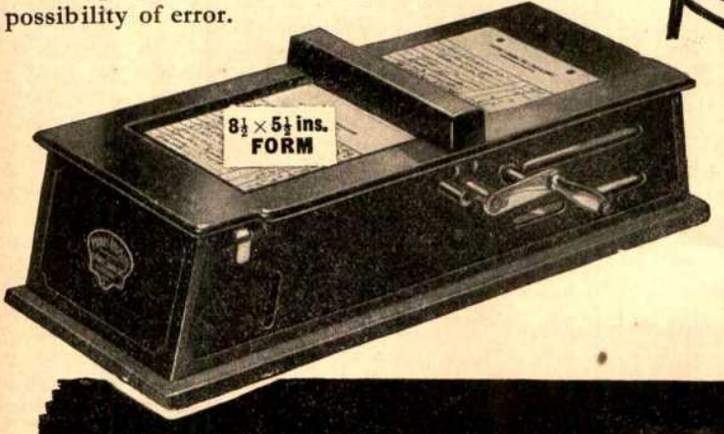
Repetitive routine record-work of this nature is speeded up at least 30 per cent, by the use of

PRIMUS

CONTINUOUS STATIONERY

The forms are fed smoothly to the typewriter, relieving the operator of all time-wasting and irritating tasks such as inserting, aligning and removing forms, interleaving carbons, etc. The elimination of these unnecessary operations assures greater concentration on actual typing and reduces very greatly the possibility of error.

The PRIMUS attachment, as supplied by us, fits any typewriter and facilitates the smooth flow of continuous forms. It allows the machine at a moment's notice to be used for either billing or ordinary correspondence work.



FOR HANDWRITTEN RECORDS the PRIMUS Autographic Register for use with Continuous Stationery ensures the same speedy smooth operation, while a copy automatically locked in the machine provides your auditor with a check on each transaction.

CARTER-DAVIS

LIMITED

QUEEN ELIZABETH STREET. S.E.1

Phone: HOP. 0204-5-6

BUSINESS EQUIPMENT REVIEW

Could You Use This Conveyor Equipment To Cut Costs 25 Per Cent?

EXECUTIVES know of the savings in time, labour and other costs brought about by the use of conveyor systems, but there is not yet real appreciation of their range and scope of work. Only recently, for example, makers of aero engines have effected big economies by using conveyors specifically designed to meet the particular conditions of production processes in this industry. Each year conveyors are being designed to do work which, but a short while before, was thought to be out of their field.

This advance in technique and application has taken place in office, warehouse and other business premises, as well as in the factory. Last month, for instance, I examined a good example of an up-to-date installation at the London distributing centre of Phillips' Patents, Ltd., the famous makers of rubber soles and heels. Here goods that were carried by hand or moved in trucks are now conveyed smoothly into and out of store at a considerable saving in time and labour.

Comparison of "before" and "after" figures is usually enlightening. In this case, unfortunately, such comparison cannot be given, as the company moved from a multi-storied building to the present single floor premises. Furthermore, at the previous location departments were spread over several buildings, as well as many floors, and additional types of work, too, were handled at that time. A careful analysis of the work of the present centre, however, shows that without the conveyors at least 20 per cent more workpeople would be needed to handle the thousands of parcels dispatched daily. That economy alone is sufficient to repay in a few months the cost of the equipment.

Let us examine briefly this conveyor installation, a product of Lamson Engineering Co., Ltd., well-known makers of all types of conveyors and pneumatic tube carriers.

Railway car loads of goods are each day brought in for distribution to store. These are discharged, checked for quantities and marked for storage rack destination at the goods entrance. The weighing method is used for checking so that the checkers need examine in detail only those cartons which deviate from the standard weight for their particular class.

Each storage rack has a code letter. The appropriate letter is marked by checkers on each carton. Batches of cartons for any one rack are put on the conveyor belt in "runs". The belt carries them to the storage racks, where men lift them off and girls put the goods in stock.

At the end of the stores section of the conveyor there is the order office and an observation control platform.

The order office is connected by a Lamson tube carrier with the main office on the floor above. Orders for goods come in via the main office, where they are O.K.d for credit, etc., and are passed through to the works office. Here they are recorded and sent by another Lamson wire message carrier to the stores keeper of the rack at the farthest end of the conveyor. The assistant fulfils whole or part of the order from her rack, and a man puts on the conveyor the carton containing the goods. If the order is complete at that point the order form is put in with the goods; if not, a "Part Order" label is attached and the order form passed on to the next assistant up the line. She fills her part of the order, has the goods put on the belt and passes along the order to the next assistant, and so on until an order is complete. When each girl has filled her part of an, or a whole, order, an inspector checks the quantities before they are placed on the conveyor. Incidentally, notice that all lifting and carrying that is necessary is done by men.

Top right photo shows conveyor passing between lines of storage racks, carrying goods into store and carrying orders out to packers. Above illustration shows method of distribution of orders to packers. Note control platform from which packers are 'fed'

This Control Platform Speeds Up Work

Each quantity of goods is carried by the conveyor to the control platform. Here a man sets part order quantities aside until all the parts come up to him. Complete orders are immediately sent down to the packers. This is done by means of two chutes which connect with conveyors. The man on the control platform can see which packers are waiting for work and can regulate the flow of goods to keep all busy.

Each packer has his own table and equipment. As soon as an order is packed it is pushed on to the conveyor by the packer, and it is then carried off to the dispatch department. At the point at which the packages come off the belt is a weighing machine. Packages are slid over the machine, and the

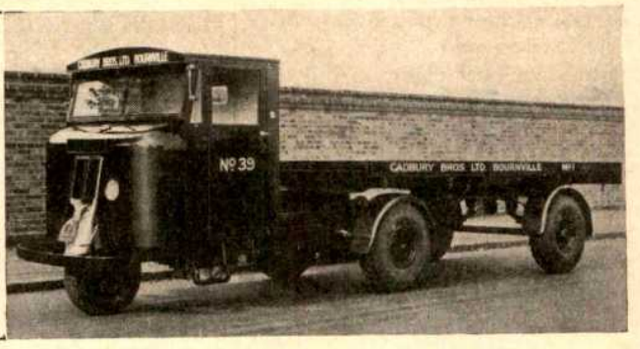
(*Continued on page* 31)

whatever

MILK

their trade

CONFECTIONERY



they found

BEER

it paid!

MEAT

The speed, power and carrying capacity of the lorry, the mobility and cheapness of the horse, and the disadvantages of neither—these are the qualifications of the Scammell Mechanical Horse. One Mechanical Horse unit may be provided with any number of trailers—all covered by one tax—to do similar or different jobs of work, and the whole fleet can be systemised to carry out several deliveries and collections at once. For short distance transport work the Scammell Mechanical Horse with its low running costs has effected large savings for many concerns. It could save your organisation money—why not sooner than later? Write for detailed literature.

SCAMMELL
MECHANICAL HORSE
UNITS AND CARRIERS
ARE USED BY MANY
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Breweries
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Railways
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SCAMMELL MECHANICAL HORSE

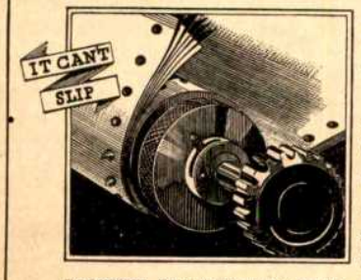
SCAMMELL LORRIES LTD., WATFORD WEST, HERTS 'Phone: WATFORD 5231 'Grams: TWELFTON, WATFORD

Alacra GUARANTEES Micrometric Registration Of All Carbon Copies

ALACRA Continuous Forms have created new standards of speed, accuracy and efficiency in writing multi-copy records on all types of business machines—typewriters, accounting and tabulating machines, teleprinters and addressing machines.

Alacra leadership in this field is due mainly to the fact that *Alacra guarantees micrometric registration of all carbon copies.* Two outstanding features make this possible: (1) the simple but ingenious Alacra Pinwheel, which positively controls the original sheet and all carbon copies *at both margins*; (2) an up-to-the-minute plant, skilfully operated to produce accurately printed Continuous Forms for specific needs.

The Alacra Pinwheel Control device is fitted in a few minutes to any standard typewriter or business machine. Alacra Continuous Forms or other marginally punched stationery flow smoothly over the platen. They cannot slip, creep, buckle, or "weave"—cannot shift except easily and evenly forward as the work progresses.



POSITIVE PINWHEEL CONTROL AT *BOTH* MARGINS

A postcard or telephone call will bring you full details of the Alacra System of Continuous Forms and of Alacra Registrators for hand-written records; or a Systems Adviser will quickly explain how Alacra can solve your record keeping problems with increased dispatch and at lowered cost.

ALACRA REGD. TRADE MARK

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SUPPLIED ONLY BY

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Business Forms Department

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Equipment plays a big part in the competence, accuracy and concentrative powers of your office personnel.

The WATLANE Company are specialists in making office furniture, smart in appearance and economical in price. Illustrated is a Watlane Oak Table made in 6 sizes (36 in. x 24 in. to 60 in. x 42 in.) with fitted locks to drawers at prices from 39/6. Let us send you an illustrated catalogue.

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EXECUTIVE *DEBILITY!*

ENDEAVOURING to maintain the efficiency of a staff, yet attend to the more vital matters in business, has a wearying effect on the executive. Many business men are revitalising their natural energy by taking VITEX. VITEX is proved absolutely safe, not a drug, but a concentrated tonic to the vitality and recommended for Insomnia, Nervousness or Mental Depression. 50 Tablets price 2/–, post free from

Wm. GRAY, M.P.S.
165 HIGH ST.
MUSSELBURGH, SCOTLAND

The Figure Problems of Business

Burroughs' Annual Exhibition of Modern Equipment that provides Many of the Answers

(Continued from page 22)

carriage return is operated by an electric motor.

The machine can be used for all forms of summaries and statistical work and for columnar analysis journals, with or without simultaneous ledger posting. Other analysis records which can be written on it include payrolls, sales, labour, purchases, analysis of department or branch office expenses for comparison with budgetary control figures, a simple accounting system in which the machine posts and proves ledgers and enters the analysis journals at the same time.

High Speed Easily Maintained in Fanfold Work

Burroughs also have a new electric fanfold typewriter. All heavy and time-wasting operations on the machine are done electrically—things such as platen shift, carriage return, tabulation to reverse or intermediate positions, etc. The standard keyboard, hand-operated, is used, which, with the automatic features, enables a typist to sustain high-speed production on fanfold or continuous form work.

One of the big features of the machine is the automatic carbon shift. On completion of a form a touch of the little finger on a bar returns the carriage to the next writing position, opens it, releases the forms and shifts the carbons automatically. Completed forms are automatically aligned with a form limit stop which the operator grasps with the forms. She then pulls forward in one easy motion to a set limit and lets go. The completed forms are separated from the next set by a single motion of the hand, and the new forms lock and the carriage closes automatically. Typing the new form set can proceed immediately. The whole process is simple and effortless, a big time- and labour-saving feature which allows a typist to keep concentrated on the matter she is writing.

There are Many Types in This Wide Range

Burroughs, of course, have such a complete range of office machines and equipment that they have always some new matter of interest to an executive. The machines which we have mentioned are those which interested us most at the exhibition; possibly there are many others of the dozens of types displayed

"VIZ-ALL" PATENT VISIBLE SYSTEMS

bring visible filing and recording within the reach of everyone

WITHOUT DISRUPTING YOUR PRESENT CONTROL

The cost of a ledger or card-file does not end with its initial purchase-price. The real cost is the cost of operation. VISIBILITY HALVES THIS COST.

The ability to get up-to-the-minute information on stock-movements, sales-statistics, production control, overdue accounts, hire-purchase collections, etc., is made possible only where visible records are correctly applied. Directive planning on any other basis is mere guesswork.

These advantages are now brought within the range of every expense-budget by "VIZ-ALL" Patent Visible Card Holders, the installation of which does not upset your existing control-system, but facilitates and speeds its operation—also, existing cards can be used.

THE IDEAL RECORD EQUIPMENT FOR MACHINE ACCOUNTING.

STOCK RECORDS

Separation of essentials—over-stocking — obsolescence — slow movement—in short, the presentation of every condition preventing efficient carrying of stock with minimum capital investment.

SALES AND CUSTOMERS' RECORDS

Revealing at once the number and value of neglected or lapsed accounts; customers not ordering normally; not called on; due to be called on; falling turnover and the causes, etc.—these things are brought instantly to light *as they happen*.

ACCOUNTS VISIBLY ANALYSED

Instant credit sanction—quicker despatch of statements—control of overdue accounts, etc.

HIRE PURCHASE RECORDS

Day-to-day control of collection and dilatory payers.

MASTER CONTROL

With visible analysed records total figures can be compiled, revealing clearly the need for action in each section of your business, and the result of such action.

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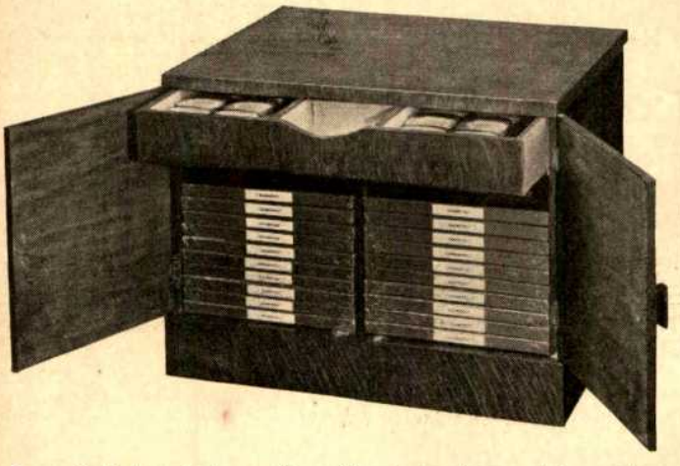
The Cabinet costs you NOTHING!



For a limited period we offer without any charge whatever the handsome polished oak cabinet above illustrated, which gives you proper protection for your essential typewriter supplies.

This offer is made simply to introduce—

RIKARBON *'Diamond'* Carbon Papers

and

RIKARBON *'Superfine'* Ribbons

which enable you to get *the best possible results* from typewriters. Why not get in touch with us to-day?

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List FINDER

New · Unique · Useful · Convenient · Attractive

An Attractive desk pad with unique and exclusive features.

Springs open at a touch to any letter. Cards have 1,380 spaces for phone numbers. Names, addresses, price lists, rates, recipes, formulas, customers' lists and countless other lists and data.

A necessity in every office and home—the perfect gift for man or woman—refills always obtainable.

Rich Silver finish—metal base with rubber feet.

Price 5/- each plain, in attractive box

REDUCTION FOR QUANTITIES

ATTRACTIVE ADVERTISING GIFT

Handsome transfer affixed to top with your own advertising matter. A real potential sales maker.

Manufactured by **MAGOWAN & CO. LTD.**
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City 4056

Wouldn't you like a higher percentage of replies to your Direct Mail?

If you heard of a sure method of pointing up the percentage of return on your direct mail, wouldn't you be interested?

Wouldn't you like to have proved means of making prospective clients more conscious of the value of the merchandise you have to offer?

We can connect you with the method of awakening greater response, not only from your existing clients but from prospects where your previous approach has failed.

This simple plan makes it possible for you to capitalise instantly the natural curiosity aroused in a reader receiving your sales propaganda by direct mail.

A time and cost saver, this simple medium has proved itself so successful that it is obviously protected by letters patent.

May we tell you more about this very original scheme—a Post Card will bring you complete details by return.

DRYDENS LTD

PRINTERS

Brent Crescent, North Circular Road, N.W.10

Telephone: Willesden 2883-4-5

that would be of particular interest to you. If there is any machine you would like to have more information about, the company would be pleased to supply full particulars if you write to the Chesham House address.

●

This Junior Executive Board

(*Continued from page* 10)

expressing their thoughts. Either through fear or natural laziness, or a reluctance to feed another's vanity with the credit of their own ideas, they will lean more and more on the one-man head of the business for all decisions.

Allow a child or a man to have his unopposed way long enough, and eventually he will be led to consider his own way as not merely the best but the *only* way. His ego will encourage him to minimize or forget his mistakes and greatly exaggerate the importance of his successful decisions, and those around him who are dependent on him for their livelihood cannot be blamed for taking the easiest way and agreeing quickly.

Throughout the factory and the office of a one-man business men in high and low positions compete with each other, not on a basis of merit but according to their standing with the "old man". And usually the most proficient "yesser" enjoys the highest standing. This is the greatest breeder of factory and office politics, of jealousy and ill-will.

In giving promotions and fixing wages and salaries, the system is just as much at fault. Usually advancement goes to the best factory or office politician; proved efficiency is seldom rewarded. That is why the morale of the personnel of any one-man business is often below par.

The primary purpose of the management to-day is to build men; it will place the human factor above profit, knowing that if its human organization is constructed of the right kind of material the profit will take care of itself.

It was on this basis that we began to organize, and to-day continue to run, our successful system of management.

The foregoing is extracted from a recent issue of the *Personnel Journal*, published by the Personnel Research Federation of America.—ED.

FIRE!

Even a modest conflagration in your premises could cause incalculable damage if your more vital records were harmed. Your premises and stock are of course insured, but no insurance could repay the years of effort represented by your ledgers, sales records, minute books and the like. FIRE-PROOFED CABINETS can take care of these at a very moderate cost however, representing possibly less than just one year's premium on less valuable possessions.

Prices from 87/6.

Full price list on application.

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VENUS PENCILS

VENUS PENCILS are incomparably smooth and long-lasting, their standard of quality never varies.

MADE IN ENGLAND
KNOWN THROUGHOUT THE WORLD

If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.

VENUS PENCIL Co. Ltd., LONDON, E.5

From 6h softest, to 9h, hardest

Helps to Analyse *Salesmen's Costs*

WHILE many manufacturers maintain good statistical records to show the comparative value of their salesmen there is still a big number who do not keep this valuable type of record. Yet a simple system can easily be operated with success and vital figures shown daily, weekly, monthly and for longer periods.

One easy method is for every salesman to have a code symbol placed against all sales made by him. At the end of the week, or whatever period you take, sales made by each man can be extracted from the books and set down on an efficiency report.

This report can be divided into columns for name of salesman, amount of weekly wage, amount of commission, total cost, total sales, percentage, cost of sales, and progressive percentage cost. For sake of example, let us take representative "A", who in a week has sold £250 worth of goods on which he gets ½ per cent commission, his standing salary being £4. The cost of this man's bookings will be 2.1 per cent. (These figures are purely arbitrary.)

Must be Judged on Standard Cost Basis

Now before this figure tells you anything you must have a standard of selling costs by which to judge. That must be an accurate figure which covers all usual selling expenses—say, in this case, 3 per cent. If that is so, then salesman "A" has a highly efficient figure for the week. But to judge on one week's figures is not good enough, and for that reason the "progressive percentage cost" column is used. This can be made up each week to show the total percentage costs on total sales to date, and so on throughout the year. Thus you get the sales cost for the immediate period plus the costs spread over, which provides a balanced view of each individual's work.

The value of statistics revealed by this simple system goes beyond a mere guide to the salesman's cost as compared with the standard, with his past figures and with those of other members of the sales staff. The method helps you to keep close control over expenses on the sales side; it picks out cases of men who get big turnover but at high cost or little turnover at low cost, thus enabling you to concentrate on the weaknesses of these men to their benefit and yours.

By extending the system slightly you can sectionalize salesmen's costs for each particular line of goods. This will throw a spotlight on lines that sell at the highest rate of profit, those that sell best, those that really sell at a loss, and so on. It will also show you such useful details as those lines which certain salesmen sell better than do their colleagues.

This system is very useful for small firms that need an accurate but simple sales costing routine.

The Chameleon

CHANGES COLOUR TO HIDE ITSELF

KARDEX TRI-COLOUR-GRAPH

Frames hold 12, 24 or 36 charting units side by side. Each unit is fitted with an ingenious arrangement of three transparent, coloured strips projected over scales by thumb-wheels. The settings are positive, rapid and tamper-proof. Change of conditions is instantly and automatically indicated by change of colour, forming a mechanical chart with an entirely new significance as a method of control.

But this new Kardex invention changes colour for the very opposite reason—to attract your attention!

Every Sales, Production or Financial Manager should send for details of Tri-Colourgraph—an ingenious method of using transparent coloured strips to control and classify figures. The colours change AUTOMATICALLY as you set the scales. Vital conditions classify themselves.

Tri-Colourgraph control is amazing in its simplicity and in its psychological influence on the direction of sales, production, etc. It is rapid in operation—and tamper-proof.

Secure your free copy of Bulletin A.615 to-day. This shows in full colour the practical application of this new device to Sales, Production, Shop loadings, Financial, etc.

KARDEX, 1 LEADENHALL ST., LONDON, E.C.3.

(Phone: Mansion House 3921)

KARDEX BRANCHES IN ALL PRINCIPAL CITIES

Something of What I Think *About Speciality Selling*

(*Continued from page* 14)

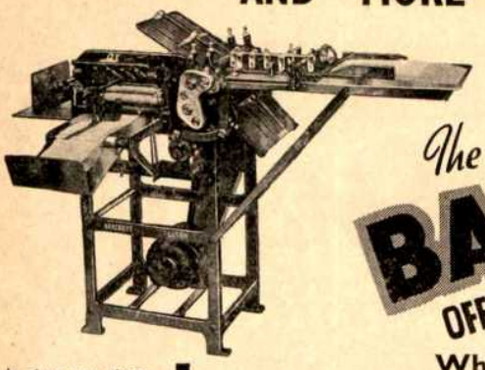
we know of an immediate and infallible cure. Every one of our men has been taught that, at the first attack, we fix an appointment for him in Harley Street, and he is back at work at once. Eight of our men have been treated in that way. They may all go through it, sooner or later. Bad teeth must be rectified, too.

Speaking of anger. You mustn't indulge yourself in that luxury. Eighteen years ago I had a very bad temper, but that eighteen years' contact with speciality selling has tamed it all away.

You may think that this attitude towards our selling team will breed weaklings—men not tough enough to stand up to the hard case prospect.

I do not think so. All speciality selling

HERE IS A SURE AID TO RAPID AND MORE ACCURATE MAILING



The BANCROFT OFFICE FOLDING MACHINE

It gives you these advantages :

- 20 times the speed of hand folding
- Automatic Packing
- Quick Change-over
- 30 different folding styles
- 100% Accuracy

Whatever the size of your outgoing mail, you will save a great amount of time and money by the use of a Bancroft Folding Machine. On heavy mailing-days, for instance, you will not need to have extra help or send work out, because this machine will take any folding job in its stride.

Write for particulars of this and other models

BANCROFT Engineering Co. Ltd.

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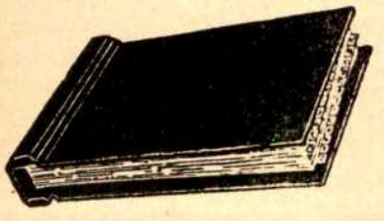
Phone : LUTON 3081. Telegrams : ACCRAT FOLD, LUTON

Sales and Service : LONDON, BIRMINGHAM, MANCHESTER, LEEDS, LIVERPOOL, SHEFFIELD, NOTTINGHAM, LEICESTER, BRISTOL, SOUTHAMPTON, GLASGOW, EDINBURGH.



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The **"ROBIN"** is a sturdy, dependable book which will give years of service under normal usage. The mechanism is simple, unfailing, operated in the twinkling of an eye. If yours is not one of the many firms using the **"ROBIN"** Looseleaf Book for record-keeping, take advantage of this special offer:

ROBIN BOOK, 5 ins. × 8 ins. comprising looseleaf binder bound full maroon buckram, A-Z index and 200 leaves (state whether feint, cash or double ledger ruling required) **9/6**

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Including Secretarial Work

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SIR H. E. BLAIN
and
S. W. ROLAND, LL.B., F.C.A.

This is an exceptionally useful book for those who are about to organize the office of a new undertaking, for executives who desire to modernize their office arrangements, and for students for professional examinations. Illustrated throughout with selected documents and specimens of business forms as used in modern offices, it is indispensable to the progressive executive. Demy 8vo. Cloth gilt. 310 pages. 7s. 6d. net.

"While conveying an immense amount of practical information, the book is never dull, and the writing is characterized by strong common sense."—*Times Trade and Engineering.*

". . . a really comprehensive office manual, embracing the wider aims of planning and at the same time the specific detail for achieving these aims."—*Business.*

Order from a Bookseller, or

SIR ISAAC PITMAN & SONS LTD.
Parker St., Kingsway, London, W.C.2

is tough. But you get more results by good selection in the first instance, and brains and training afterwards, if your man believes in you as much as he believes in the proposition he is selling.

He is in the limelight, but so are you. It is up to you to put up as good a show as you expect from him.

Can a sales force have no turnover? Can you hope to build up a sales team that will be permanent?

If you could do this you would remove your heaviest expense. If your men leave you there is something the matter with your proposition or how you handle it. If you have to release a man you must face facts—is it your fault or his that that man has not succeeded?

If it is not faulty selection in the first instance it may be faulty treatment afterwards. In any event every man you have to release is a reflection on your own Sales Management. That is where you should look first.

[The above is extracted from an address recently given before the British Sales Promotion Association. —ED.]

Faster Work: Lower Costs in this Mailing Department

(*Continued from page* 20)

sure". The machines give complete instructions immediately the letter or package is put on them.

From the methods' angle all work is simplified to a foolproof routine. For example, outgoing correspondence from certain departments—say Fuel Oils, Motor Oils, Industrial Oils, etc.—is often addressed to one firm. All correspondence, therefore, from these departments is placed in one container until sorting and dispatching time. Letters going to one address are then collected and placed in a single envelope. By this means alone the company save hundreds of pounds as compared with sending out all letters under separate cover.

Correspondence between head office and the numerous branches and works is vast. A container is provided for each branch, and all matter for mailing is automatically placed in the appropriate box. These containers are used for "inward" in the morning and "outward" at night.

LEABANK CHAIRS

Leabank Chairs for good work and good workers. Preserve the healthy and efficient upright attitude. For men and women in office or factory.

CATALOGUE FROM :—
LEABANK CHAIRS LTD.
(Showroom) 4, IMPERIAL BUILDINGS
56 KINGSWAY, LONDON, W.C.2

An economic and efficient point is the use of letter bags for branch mail. There is always a fair volume of correspondence between the various offices and works. Instead of sending each letter under separate cover they enclose the lot in a strong linen bag. On the outside is printed the address of the branch; on the inside the address of the head office. When the branch get the bag they turn it inside out, put in their mail to head office and send it back.

There is no central sorting of the mail. All is automatically routed to its appropriate container as it is collected. Folding, inserting, sealing, stamping and dispatching are carried out with the minimum of handling and by sections. Each man has certain sections to look after.

Typical of minor points of efficiency is use of the modern open-side envelope for ½d. stamp mailings. There is no flap to be tucked in. The sealing machine handles this new type with economy. It saves at least three seconds in the handling of each envelope, a total saving of many hours each week.

A two-shift system is used. The first comes on at 7.30 a.m. and leaves at 4 p.m.; the second starts at 11 a.m. and finishes at 7.30 p.m. Unless there is special work all the men get away promptly.

All inward correspondence is delivered to every department by 9 a.m., a benefit to all departments and a help that gets outgoing mail ready earlier in the afternoon.

Fifteen of the 30 men work in the teleprinter section. The value of this new department is shown by the fact that last year 168,000 messages were sent by teleprinter.

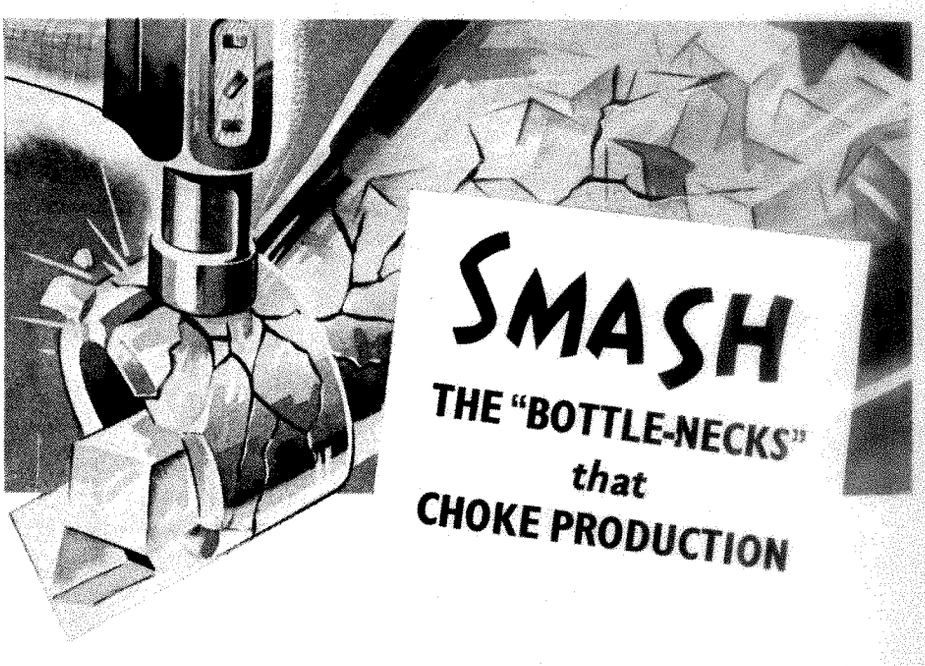
From the management's point of view the section's economic success is matched by the vital interest taken by the men in the new work. They have all shown exceptional keenness to become operators and have taught themselves the job!

Management Now Has More Direct Control

One of its most vital functions has been to give greater direct control of head office management. The more cordial relations and efficiency induced are noticeable. The system has brought every branch closer to head office.

How close control can be is instanced in the use of stencils, which can be cut on teleprinters as on typewriters. Should the necessity arise for important instructions to be issued to all departments all over the country teleprinter stations would receive orders to insert stencils, and the message would be cut on them. Each branch could then use its stencil to print the necessary number of copies for distribution to its departments. There is no chance of error here.

By a system of private wire extensions, all teleprinter stations are in direct touch with sub-branches and other parts of the organization in their areas. This, in effect, puts all areas into direct contact with head office. All teleprinter stations can also contact each other via head office.



Late Delivery is frequently caused by "Bottle-necks" blocking the steady flow of production.

Automatic Machinery and Equipment may assure high efficiency on individual operations, but it is in the passing of goods between operations that the flow is interrupted.

For many years Lamson Engineers have been solving problems affecting the smooth flow of production, designing Mechanical Handling Plant for every conceivable purpose.

Why not take advantage of this accumulated experience and let us survey your Establishment. We shall be glad to advise you without any obligation.

RECENT CONTRACTS FOR LAMSON CONVEYOR EQUIPMENT INCLUDE:

"THE TIMES"
"DAILY EXPRESS", MANCHESTER
PATONS & BALDWINS, HALIFAX, LONDON AND ALLOA
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LAMSON ENGINEERING CO. LTD.
SUCCESSORS TO LAMSON STORE SERVICE CO. LTD. & LAMSON PNEUMATIC TUBE CO. LTD.
132, CHEAPSIDE, LONDON, E.C.2
Telephone. NATIONAL 0202 Telegrams. KELYWIL, CENT, LONDON

Conveyor Equipment Cuts Costs 25%

(*Continued from page 24*)

correct cartage delivery charges are obtained.

This distribution centre deals with orders for all parts of the country. For dispatch purposes the whole of Britain is zoned, goods for delivery in each particular zone being stacked and dispatched in quantities.

Export orders are packed in a special department set up for this purpose. The value of doing the work in this specialized way is reflected in the record of the department: no complaints from overseas since it was started.

This entire system is, of course, simple and straightforward, but it does show an interesting use of conveyors. There are certainly many firms that could use such a system with advantage. In any job in office, factory or warehouse, where there is need to move materials, a conveyor may be the means of effecting big economies. It is quite usual to cut costs by over 25 per cent by using a conveyor system; in some instances savings considerably in excess of this figure are achieved.

The important point for the executive is to get out of the groove of thinking of conveyors as suitable equipment only in the factory. Now that there is special need to cut costs, possible use of conveyors in your business is a line of thought worth investigating.

"What a difference you have made!"

said a business man the other day eyeing with satisfaction the proof of a little leaflet we had re-designed for him.

It had been transformed from undistinguished mediocrity into a striking piece of sales literature, certain to make a good impression on prospective customers—without increasing the cost appreciably.

If your literature is not as distinctive as it might be, ask us to prepare a layout without putting you under obligation.

J. W. RUDDOCK & SONS
Printers & Advertising Consultants
LINCOLN
and at 3 Old Jewry, LONDON, E.C.2

Sales and Purchases Figures From *Slow to Double-Quick Action*

(Continued from page 18)

The daily card is entered up by a girl from the order acknowledgment and from the copy invoice; the monthly card is entered up from a summarized analysis of the Paramount cards, thus giving a check to each month's entries.

As each accepted order is entered on the card at the time of acknowledgment this V.I. record enables us to keep a careful check on the despatch of the customer's order. On occasions when we are not able to fulfil his requirements immediately from stock a coloured crayon signal is made on the left-hand edge of the celluloid strip and a pencilled note of the outstanding balance of the order, if considered necessary, is slipped in with the record card. Where an order is accepted for forward shipment a different coloured crayon signal is made. These pockets so signalled are inspected every week, and inquiries made to ensure that no orders are overlooked. Immediately the copy invoice reaches the girl clerk it is entered on the card, thereby showing that the goods have been despatched, and the signal is removed.

Through this daily record card we can tell what each customer is buying, when he last placed an order, and when he was last called upon by the traveller. We can thus ensure that proper attention is given to each buyer, either by the traveller or by the sales department of the branch concerned.

Here, also, we have all the vital statistics which the sales department need for planning adequate sales campaigns. We are able to assist our travellers by giving them up-to-date news of their customers; this helps them to keep on top of their job. I have mentioned that we signal the travellers' calls (travellers' report card, see Fig. 3). Each traveller has a number of these cards padded into book form, in duplicate, in series of fifty.

The originals are posted to us each night and used by the sales and statistics departments the following day. When the book is full it is for a while retained by the traveller for reference, and later returned to the office for filing. This record enables us to add prospective buyers to our mailing list, and to signal on their addressograph stencils the lines in which they are likely to be interested.

These Facts are Vital to the Buying Department

As I mentioned, in addition to values, we require statistics to look after quantities. These are vital to the buying department. Provided we can ascertain correctly the quantity of stock in transit at the beginning of our accounting period, together with the quantity in stock, we can easily determine the quantity in stock at the end of the period concerned. In addition, by combining these records with our contract records we can obtain not only the quantities in stock, either for ourselves or on reserve for customers, but also the quantities on contract and coming forward, and the quantities on contract but still undeclared. The summary in Fig. 4 explains this.

With regard to the above summary, an additional advantage in combining contract particulars of goods not yet received with the actual quantities received is that the quantities shipped during the month, i.e., ex. contract, will be proved by agreeing the quantity on declaration at the end of the month, as per the summary, with our actual contract declaration records, thus "A" plus "B" equals "C" plus "D".

System has Revitalised Control of Our Business

Since we began to use these systems we have been obtaining our detailed purchase and sales analysis reports and summaries within 4-5 days of the month end, and the stock summary analysis, which it has been possible to obtain by means of the Paramount cards, has proved of inestimable value.

Before the introduction of the Paramount card-sorting method sales reports of this nature were not prepared, and it was only possible to give reports in a very broad form. In addition, it was quite impossible, without laboriously working out the footages of stocks on hand, to obtain the quantities available for stock or reserved for customers at any time; and without this detailed analysis our statistics could not, of course, be of any real assistance to the directors or their buying and selling departments.

"NO-SMOKE" ASH TRAY.

ADVERTISING GIFTS
CALENDARS, BLOTTERS, PENCILS, DESK PADS, PHONE INDEX, ASH-TRAYS. *Write for Quantity List.*
CALENDOX Ltd., 91 PETTY FRANCE, LONDON, S.W.1

USE THIS COUPON

If you desire information from the Editor or from Advertisers attach this coupon which should be signed by a responsible executive, to your business letterhead and post to:—

BUSINESS Service Department, Whitefriars House, Tallis Street, E.C.4.

Please send, without obligation, more information in connection with advertisement (or advertisements) in the July, 1938, issue of BUSINESS numbered below.

Numbers (see Index, page 5).....

Firm.....

Address.....

.....

Need a Factory?

Here's A Complete Service That Provides

1. Freehold Site
2. Architect's Plans
3. Modern Building

HASTY decision to move to a new factory location may leave an unpleasant heritage to any manufacturing company, yet there are comparatively few boards of directors that are as careful, systematic and thorough in dealing with this problem as they are in handling other directorial business. Too often there is actually a last-minute rush in choosing a site and deciding on building plans or in selecting an existing premises.

Perhaps you imagine I exaggerate the state of affairs. Do not be misled. There are many instances I could quote to prove the point: one will suffice. A firm of motor accessories manufacturers bought a site near London and started to build a factory, when it was pointed out that the centre of labour, supplies and market for them was the Midlands. Despite loss of time and money, they relocated near Birmingham. Even superficial investigation by the board would have prevented the costly and foolish mistake being made.

Small Details Bring On Costly Delays

Of the many problems involved in choosing factory sites, the one I have cited is about the most obvious, but of great importance. If such a point can be overlooked, there is no wonder in the fact that many firms face expensive and costly delays in buying or renting land and buildings; in getting necessary water, heat, light, power, drainage and other facilities; in their dealings with local authorities and so on.

The decision to build or rent a new factory is only the first step. Indeed, all the major work of investigation, analysis and planning lies ahead if the job is to be done properly. To some extent this task has been simplified in the last decade or so by the growth of industrial estates. But the facts, figures, information and so on amassed by estates and the work done by them is only contributory help.

There is, however, a complete service for site selection, factory building and all that it entails, available to-day for manufacturers. It is given by Commercial Structures, Ltd., London, a company that specializes in the construction of up-to-date *planned* factories. The size and importance of the service can be appreciated by the fact that more than 250 manufacturers in the London area are now housed in factories built by this firm.

What will this service do for you? Summed up, it does these things: (1) provides a scientific analysis of your factory site requirements from the viewpoint of (a) labour, (b) transport, (c) markets, (d) electricity, gas and water services; (2) gives you the choice of a site on one of ten industrial estates or an individual site in any of the industrial zones in the London and Home Counties area; (3) prepares plan, design and layout of the proposed factory, or offers a selection of existing buildings suitable for your particular requirements; (4) looks after the mass of detail involved in getting plans approved by local authorities, investigates rates and conditions of local services, taxes, etc.;

by

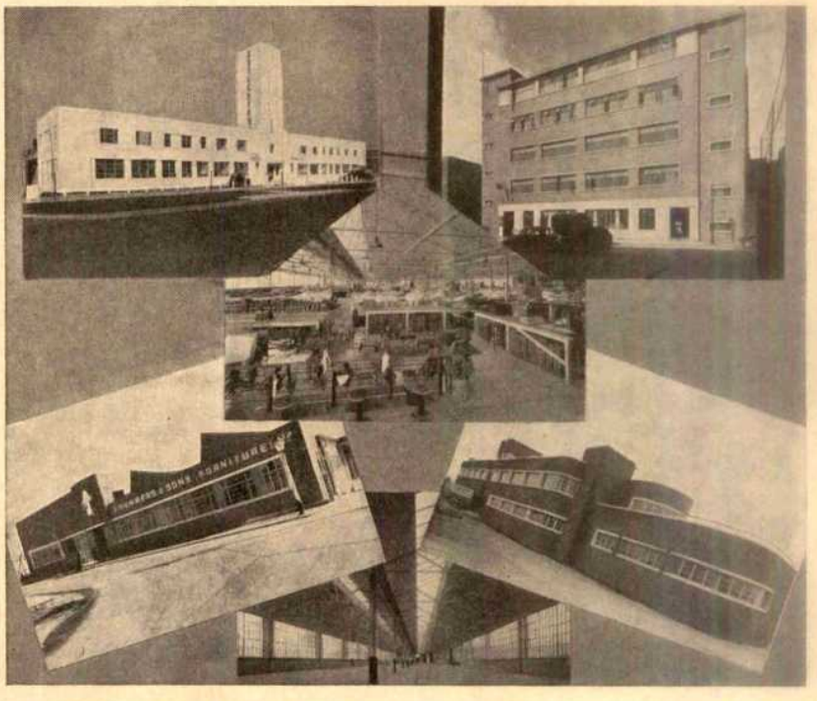
CEDRIC E. DAY

(5) provides finance terms and facilities for purchase or rental of land and buildings.

As you can see, this service relieves you of most of the tiresome detailed work once you have made up your mind to have a new factory. Indeed, the service takes care of all detailed work which can be done outside your own offices. But it is not necessary to take all the service. For example, many manufacturers prefer to find their own site and to have their own architect design the new building. The policy of Commercial Structures, Ltd., is to meet exactly your wishes in the matter; the complete or part service is at your disposal.

One of the most valuable assets of the company shows in the analysis of factors influencing choice of site. To judge a new location's value, you must know the relative importance of facilities of labour, transport, markets, etc. With wide experience of the requirements of manufacturers and with knowledge of the facilities throughout the Home Counties area, the company is able to give you an exhaustive analysis of conditions. A number of little points that might escape the ordinary investigator are well known to the firm's research staff. They have gone into the matter thoroughly time and again, looking at it from the

(*Continued on page* 40)



Whatever the architectural design of C.S. planned factories, the layout is always studied from the viewpoint of the modern manufacturer and his need for ample natural light, even temperature and easy extension of the building. Shown here are two typical interiors and four examples of up-to-date designs

What it *Costs* to Construct a Shelter in the Basement of your Factory

EXPERTS have agreed that there are, to sum up generally, five means for manufacturers to provide protection for their staffs (1) by using an existing building as a shelter; (2) by trenches or other outside shelters; (3) by galleries (of the type used in mines) where these exist already or where they can be constructed more easily than special shelters or trenches; (4) by dispersal; (5) by any combination of methods 1 to 4 mentioned.

Here we are concerned with using an existing building as a shelter. Multi-story reinforced concrete buildings are the most suitable for containing a shelter because they are structurally strong, are able to withstand the effects of blast and splinters. Unless your building is able to do this or can be reinforced to the required strength, it is of doubtful value as a container of a shelter.

Below Ground Best Place For Shelters

This does not mean, necessarily, that a basement of such a building cannot be used. Below ground level is the best place for shelters because lateral protection is automatically secured. Basements also provide extra overhead protection because of the floors and roof above. But for specific knowledge of whether or not your basement will provide a suitable shelter you must get the advice of a technical expert. This is important because local authorities are strict about such matters and may veto your plans unless they meet every requirement. A basement shelter should not, of course, be below the level of sewers. You can overcome such difficulty by constructing entrances above flood level. This, also, is a means of solving the problem of a weak building above a basement.

Let us assume that you have a suitable basement in your building. What action do you take? First, the number of persons to be accommodated must be settled. This is a simple job. According to the Home Office recommendation an allowance of 75 sq. ft. of surface area (floor, ceiling and walls) per person should be made for unventilated shelters. On this basis shelters may be occupied up to a period of six hours. By increasing the space allowance per person the period can be extended. For instance, an allowance of 100 sq. ft. per person provides for a stay of 12 hours. With ventilated shelters the period of occupation can be extended indefinitely.

Where you decide to introduce a gas-filtration and ventilating plant an allowance of 6 sq. ft. of floor space per person is desirable. The minimum allowance should be 3½ sq. ft., but this provides standing room only and is not recommended. A better allowance is 7½ to 10 sq. ft. per person, as this permits people to lie down and provides a reasonable amount of comfort.

If you have two or more basements it is worth while to use them all, as dispersion is a measure for safety in itself. No one shelter should take more than 50 people. If, for example, you crowd all your staff into a large shelter one direct hit by a high-explosive bomb would probably be completely disastrous.

Test Shelters For Staff Accessibility

Another point to keep in mind is accessibility. Employees should be allocated to the shelter nearest them. Carry out tests to find out how long it takes for everyone to reach his or her assigned shelter. Such tests will show if modification of stairways, entrances, etc., is needed.

A problem that calls for special knowledge and advice is that concerning the work that must be done to make a shelter effective. There are a number of points to consider here. Shelters should be under the centre of the building rather than against the outer walls. They should not be located near boiler rooms or similar places which might themselves constitute a risk. Positions below water tanks, heavy machinery, and so on, are also to be avoided, as they might be dislodged and crash through the roofs of the shelters. On the other hand, a position under central corridors is an advantage, as a small span of ceiling is strong and, therefore, provides additional protection and costs less to reinforce to the required strength.

All outside walling projecting above ground level should, of course, be

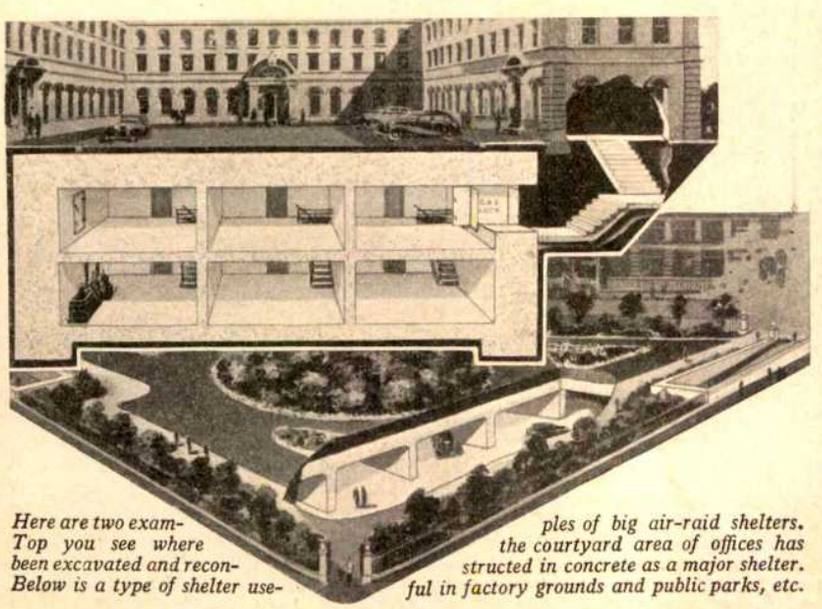
(*Continued on page 41*)

ROOF SLABS FOR "SPLINTER-PROOF" AIR-RAID SHELTERS WITHIN BUILDINGS.

Designing load: 550 lb. per sq. ft., in addition to weight of slab.
Max. compression in concrete: 750 lb. per sq. in.
Max. tension in reinforcement: 18,000 lb. per sq. in.
Proportions of concrete of ordinary grade: 1:2½:4.
Modular Ratio: 15.

Slabs, free-ended. Bending Moment $B = \frac{WL}{8}$

Span.	Thickness.	Reinforcement.	Notes.
4 ft.	6 in.	⅜ in. Dia.	(1) Reinforcement to be placed in the bottom of the slab, with 1 in. cover, and to be spaced at 6 in. centres in both directions, forming a grid.
5 ft.	6 in.	½ in.	
6 ft.	6 in.	⅝ in.	
7 ft.	7 in.	⅝ in.	
8 ft.	8 in.	⅝ in.	
10 ft.	10 in.	¾ in.	
12 ft.	12 in.	⅞ in.	
14 ft.	14 in.	⅞ in.	(2) A minimum of 1 in. thickness of concrete is required per foot of span.
16 ft.	16 in.	1 in.	
18 ft.	18 in.	1 in.	
20 ft.	20 in.	1⅛ in.	(*L. Scott White*).



Here are two examples of big air-raid shelters. Top you see where the courtyard area of offices has been excavated and reconstructed in concrete as a major shelter. Below is a type of shelter useful in factory grounds and public parks, etc.

Your Factory Staff Needs This Type of Training in *First-Aid A.R.P. Work*

AT a time of emergency it will be essential that there is at least one competent first-aid squad on your staff. Even if your premises do not suffer from high explosive, incendiary or gas bombing, the chances are, under such panic conditions, many of the staff—females in particular—will need attention.

As a sensible precaution, therefore, you should arrange now for a group of volunteers to take up an A.R.P. first-aid course. This can be done quite easily. In almost every area of the country instruction can be obtained at little or no cost by attending lectures arranged by the local authorities or by taking the St. John Ambulance Brigade course. In many instances St. John instructors are conducting A.R.P. courses given by local authorities.

Most of the lectures given under these conditions are, however, aimed to prepare the public. They do not deal with specific problems such as may arise in factories and offices. For that reason you may find it worth while to arrange for your staff to be instructed, free of charge, under the scheme sponsored by Woodward & Co. (Finsbury), Ltd., London. This firm of builders is specializing in A.R.P. work of every kind. The firm's technical experts, under Mr. F. C. Hibberd, a director, will investigate and advise you on factory and office A.R.P. shelter problems, draw up complete plans and estimates, carry out the work and attend to all details such as getting the plans passed by local authorities. Part of the service offered is free instruction in A.R.P. first-aid work for business staffs.

The lectures, which are spread over a 10-week period, take place in the order shown in this table:

Lecture 1. Introduction. (Lecture by Mr. F. C. Hibberd.)

Lecture 2. Nature and properties of war gases. Division into (*a*) non-persistent, (*b*) persistent. Methods of attack (*a*) bombs, (*b*) spray. Effects of weather. Effects produced on personnel.

Lecture 3. Types of more important gases: (*a*) eye irritants, (*b*) nose irritants, (*c*) lung irritants, characteristics and first-aid treatment, (*d*) blister gases—nature and action.

Lecture 4. Blister gases—first-aid treatment. Other poisonous substances.

Lecture 5. Gas detection—chemical indicators. How to avoid becoming a casualty. Gas protection for buildings. Air locks.

Lecture 6. Protection of the eyes and lungs: (*a*) service respirator, (*b*) civilian duty respirator, (*c*) civilian respirator. Fitting, use, and care. Inspection.

Lecture 7. Protective clothing—use. Order of dressing and undressing. Station or depot for A.R.P. services.

Lecture 8. Casualty services. First-aid posts. Organization.

Lecture 9. Decontamination—general principles. Decontamination of materials and equipment.

Although the company's headquarters are in London, lectures are arranged in all parts of the country. In cases where instruction is on a large scale the lectures can be given at the factory of the firm concerned. Usually, however, a central place is chosen, and representatives of a number of firms attend the course.

Gas Mask Storage Equipment

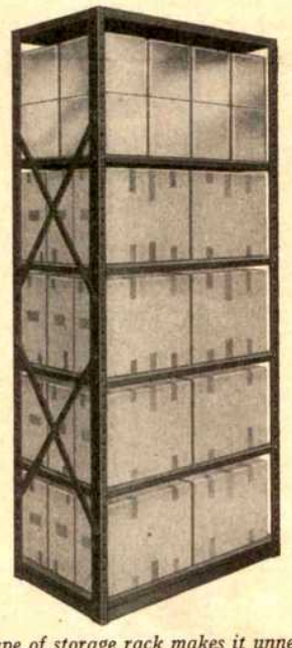
PLANS for gas mask storage, assembly and distribution have now been made by the Home Office. This announcement will interest manufacturers who have been carrying out A.R.P. work in safeguarding their staff, plant and factories. It will also encourage many executives to get ahead with A.R.P. plans as this storage problem has vital influence on all defence measures.

Use 'Flow' Type of Production

According to Home Office recommendations, the ideal lay-out for a local gas mask stores provides for the storage, assembly and issue of 30,000 respirators. Racks and tables should be set up to provide "flow" assembly and be near to a public thoroughfare.

Equipment for these stores is being manufactured by Constructors, Ltd., Birmingham. It is built on the unit principle. This feature is of particular interest, for, although a 30,000 storage capacity is recommended, there are many instances where a much smaller quantity need be stored. The equipment, therefore, is so designed that even a small number of respirators can be economically handled.

Necessary equipment includes steel racking, specially designed to take canisters and cartons, steel tables for respirator assembly, and steel counter-high racking which provides a useful working surface. This also holds tools for opening canisters and cartons. Steel racking for storing assembled respirators in individual cartons is also provided. As avoidance of fire-risk is essential, steel is used throughout.



This type of storage rack makes it unnecessary to load the heavy cartons above 4 ft. 9 ins., a vital factor in view of the conditions under which gas mask assembly is likely to take place. Notice how the cartons can be slid easily on to and off the shelving in this kind of rack

Storage of assembled respirators ready for immediate despatch by the wardens to the public has also been suggested by Constructors, Ltd. In an emergency, unhampered two-way traffic and the speedy issue of gas masks to the public would be vital.

The company will be pleased to supply full information on this section of A.R.P. work to any executives who are interested.

Concrete Tunnels To Protect All Your Service Lines

CENTRALIZATION of services has drawbacks which, under war-time conditions, might be disastrous unless preparations are in every case complete. Manufacturers, for example, know well enough what disruption is likely to take place if a power station or gas works was hit by a high explosive bomb. For that reason it may be worth while to install some sort of supplementary light and power supply. Where factories depend entirely on such public service, it is almost necessary to have auxiliary supply.

Water supply and sanitary pipes in exposed situations may easily become damaged and cause a lot of delay, expense and trouble.

One of the best ways of dealing with service-line problems is to bring all lines into the factory through a reinforced concrete culvert or tunnel. This not only simplifies the job of repairs and maintainance but the concrete offers protection against bombs and explosions.

Under this New Factory Act You . . .

May Have to Revise Your Insurances

At any rate here is the definition of a "competent person" who, though legally required to certify your plant, is not specifically defined in the Act

By Our INSURANCE CONSULTANT

THE vitally important fact in connection with the new Factory Act (it comes into force this month) what every manufacturer must realize is:

Many units of machinery must be periodically inspected and *a certificate in respect thereof issued by a "competent person."*

Now the Act does not specifically define a "competent person". But the skilled staffs of the specialized Engineering Insurance Companies are, in fact, recognized by the Home Office authorities as fulfilling the requirement of the term "competent person". So there is your solution to the problem.

But in availing yourself of these engineering insurance experts to fulfil a legally essential service you can, at the same time, for merely nominal extras in premiums, increase your insurance cover to include the extra risks induced by the conditions of the New Act.

Such extra risks include breakdown of machinery which *must* be maintained at a standard to comply with the Act and the greater liability likely to arise under workmen's compensation.

Here, Also is Another Important Factor

Then there is the extremely valuable advisory service which these insurance experts can render to you in determining, for example, what additional fencing or other protection of machinery you must put up to comply with the Act. Some of the new requirements in this direction are of course obvious; but others are by no means so apparent.

It must be realized that should an accident occur in respect of one of these less obvious points that are neglected, you may become involved not only in heavy workmen's compensation but a heavy penalty under the Act as well.

We shall be pleased to put readers in touch with specialized insurance companies who carry out the important Inspection, Certifying, Advisory and Insurance services referred to here

The new Act brings within its scope, under the heading of a "Factory", many businesses hitherto excluded and the distinction previously made between Factories and Workshops and Textile and Non-Textile Factories has been abolished entirely.

In addition to the definition, the Act gives a list of many examples of premises which are to be considered as Factory premises whether or not they come within the strict terms of the definition.

Hitherto, the requirements of the law as to compulsory periodical examinations of plant have been confined to steam boilers under the Factory Act of 1901. The present Act considerably extends the law's requirements. It extends the definition of steam boilers to include Economisers and Superheaters—in fact it requires the examination of all vessels to which steam is admitted at a pressure greater than atmospheric.

Furthermore, the examination is required of Cranes, Lifts, Hoists, Air Receivers and water-sealed Gasholders. These shall be examined, and prescribed forms of reports or prescribed particulars following these examinations shall be filed in the Factory Register showing that the plant has been inspected at the stated intervals laid down, and certifying that they are in good state of repair and suitable for the service they are intended to give.

These examinations must be made by a competent person and it must not be overlooked that Lifting Tackle, Lifting Machines and Boilers shall be tested, examined and certified *before being brought into use in a Factory.* It is, therefore, very important that each portion of machinery must have its relative certificates and the periodical examinations made, in order that the factory may not be caught out on production stoppage through the various machinery units not being certified.

The question of a "Competent Person" within the meaning of the Act we have already dealt with.

The main purpose behind this Act is not so much that machinery shall be inspected every six or twelve months, as the case may be (these being looked upon as maximum periods for inspection), but that the machinery units, as a whole, should be inspected periodically to ensure *safety in working.*

In this article is included a list of some of the plant and apparatus affected by the Act, so that the items requiring a certificate of inspection will be readily identified.

The new Act, is in force *now.* The Home Office Factory Inspectors will, therefore, be making inquiries as to what steps are being taken to comply with the numerous new provisions. Manufacturers who have not so far considered the matter should, therefore, take immediate steps to see that the conditions in the Act are therefore complied with.

1. Air Heating Batteries (Steam Heated).
2. Air Receivers.
3. Autoclaves.
4. Auto-Feed Tanks.
5. Bain Marie.
6. Blow-Down Tanks.
7. Bone Dryers.
8. Brewery Coppers.
9. Brick Hardening Chambers.
10. Calenders.
11. Calorifiers.
12. Cask Washers.
13. Collar, Cuff and Neck-band Presses.
14. Condensors.
15. Dairy Boilers.
16. De-Superheaters.
17. Digesters.
18. Disinfectors.
19. Drying Cylinders.
20. Economisers.
21. Esparto Grass Boilers.
22. Fat Melters.
23. Feed Water Heaters.
24. Hay Steaming Vessels.
25. Hoffman and Prosperity Type Presses.
26. Hosiery Presses.
27. Hot Carving Tables.
28. Hotchkiss Circulators.
29. Hot Plates.
30. Ironing Machines.
31. Jacketed Glue Pots.
32. Jacketed Glue Pans.
33. Kiers.
34. Liquor Vessels.
35. Mandrills (Steam Heated).
36. Matrix Presses.
37. Milk Heaters and Dryers.
38. Noggereath Vessels.
39. Nuconomisers.
40. Pasteurisers.
41. Retorts.
42. Revolving Rag Boilers.
43. Separators.
44. Steam Boilers.
45. Steam Cookers.
46. Steam Heated Hand Irons.
47. Steam Heated Radiators.
48. Steam Heated Rollers.
49. Steam Jacketed Tobacco Drying Vessels.
50. Steam Jacketed Pans.
51. Steam Jacketed Worms.
52. Steam Ovens.
53. Steam Receivers and Traps.
54. Sterilising Pans.
55. Steam Chests.
56. Sterilisers.
57. Stills.
58. Stocking Hosiery Forms.
59. Superheaters.
60. Thermal Storage vessels and Ruths Accumulators.
61. Timber Seasoning Vessels.
62. Tyre Moulds (Steam Heated)
63. Unit Heaters and Intensive Heat Radiators.
64. Vegetable Steamers.
65. Vulcanisers.
66. Washing Machines.
67. Hoists and Lifts.
68. Cranes and Lifting Machines.
69. Chains, Ropes and Lifting Tackle.
70. Water Sealed Gas-holders.

Left: **Here are some of the items of plant and apparatus affected, as described here, by the new Act which, it must be remembered, COMES INTO FORCE THIS MONTH**

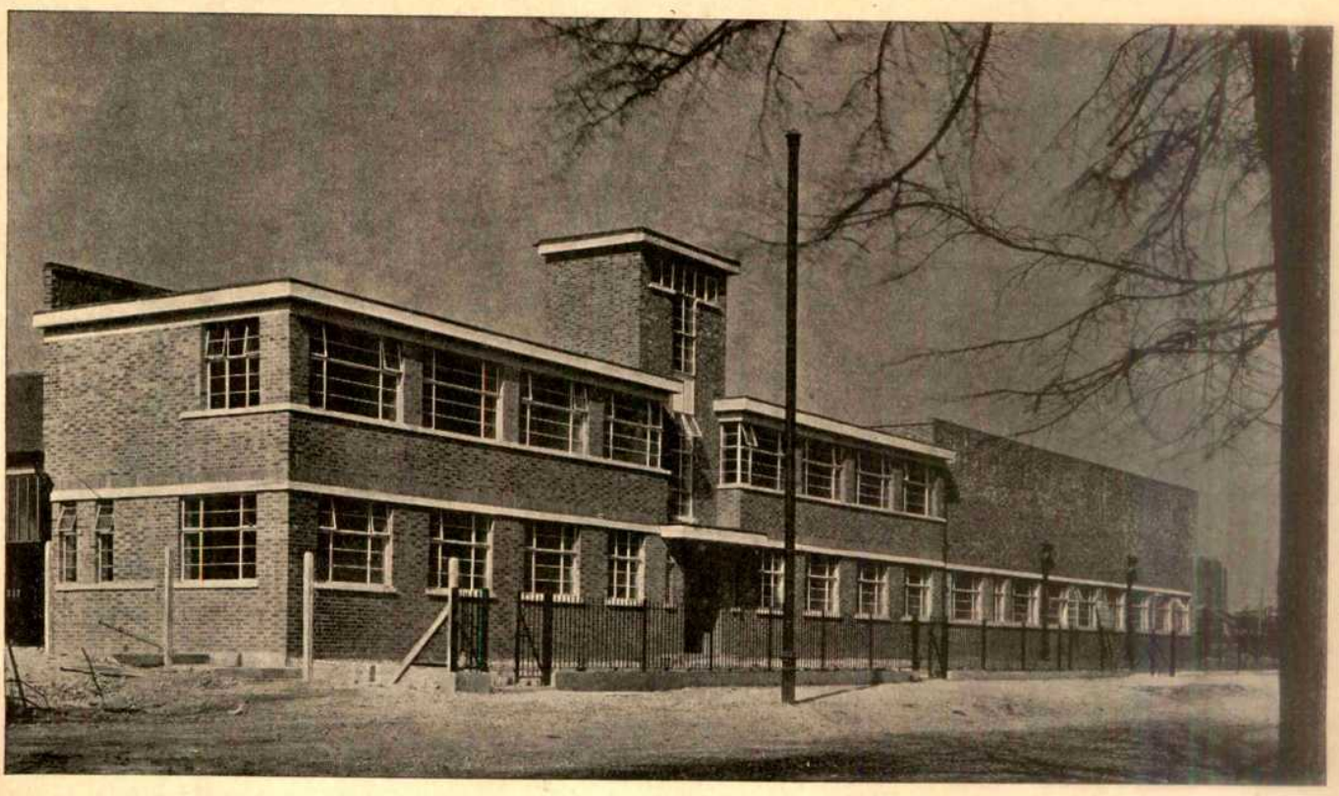
●

You Can *Hand-Pick* Holiday Weather Now

WEATHER will be a vital concern to some 5,000,000 factory employees this summer because they will be interested for the first time from the holiday viewpoint. The majority of workers concerned will hope and plan for fine days and sunshine.

The trouble is to select a period of fine weather. Hitherto the choice has been little more than a good guess. To-day, however, you can get forecasts that are *over 90 per cent correct up to three months ahead* and over 80 per cent up to a year ahead.

These forecasts are available for any part of the British Isles. Address your inquiries to: Industrial Editor, BUSINESS, Whitefriars House, Tallis Street, E.C.4.



The factory we recently erected for Messrs. Baird Television Company Ltd., at Sydenham

Output Increased in a CS *PLANNED FACTORY*

A CS factory is not simply the result of skilfully placing brick upon brick. It is a scientific solution to a complex problem.

Its correct size, shape and position are arrived at through an analysis of the type of plant to be accommodated, the labour required and the transport facilities needed.

Evolved in this way, CS factories work as efficiently as the machinery within them.

You can buy or rent a CS factory, planned exactly for your purpose in any of the industrial zones in the London area.

Over 250 firms in the London Area are manufacturing more efficiently in CS PLANNED FACTORIES

CS FACTORIES planned for modern industry

COMMERCIAL STRUCTURES LIMITED

STAFFA ROAD, LEA BRIDGE ROAD, LEYTON, E.10 *Leytonstone 3678*

Cut Down Noise *to Raise Output and Improve the Health of Your Staff*

BECAUSE of noise you are probably losing on average 10 per cent production a day, possibly more over a period of months. Many business men are paying a 15 per cent rate.

It is only in recent years that executives have become aware of the menace of noise to efficiency in work and to the health of employees. Even now the widespread harm done is still underrated. Nor do most executives realize what knowledge, experience and materials are to-day available in the fight against noise, how offices can be insulated against it or treated with noise-absorbing materials.

There is, for example, a product called Acousti-Celotex, made by Celotex, Ltd., at a new factory at Stonebridge Park, London, N.W.10. The product is a light, rigid acoustical tile, sound-absorbing and durable. It is perforated with 441 holes per square foot. These perforations, which go to within ⅛ in. of the back of the tile, act as channels which allow sound waves ready access to the porous interior of the material. The thickness of the tile varies between ½ in. and 1¼ in., according to the amount of correction required. Reverberation, echo and other sound is, therefore, absorbed and suppressed.

The quiet of an office treated with Acousti-Celotex is most noticeable. The noise of a typewriter, a person speaking or walking, a machine running, seems to be confined to the immediate area from which the noise is issuing. You need only walk into a room fitted with the material to realize the effect. In one office I examined, for instance, two clerks were speaking across a desk to each other at a distance of 15 feet from me. Although their voices were raised to the usual pitch for such cross-talk, I could not hear a word they said.

Noise Cut Down By Half or More

If you want a scientific check on the noise-absorbing properties of these tiles, look at the figures recorded recently in the counting-house at Selfridge's, the famous London department store. At six positions, the average reduction in sound was about equal to a 50 per cent reduction of the original loudness. At three other positions the figures were even better—75 per cent. The tests were conducted by Western Electric Co.

It is too early yet to get reliable figures on increased efficiency and better health of the employees in Selfridge's counting-house, but there are accurate results available from other business houses. An insurance office, for example, reports a 12 per cent rise in output in one year in work on accounting machines. A manufacturer has recorded a 4 per cent increase in typing in his offices. An 80 per cent reduction in noise volume and a 13 per cent increase in production is the record of a firm of lenses manufacturers.

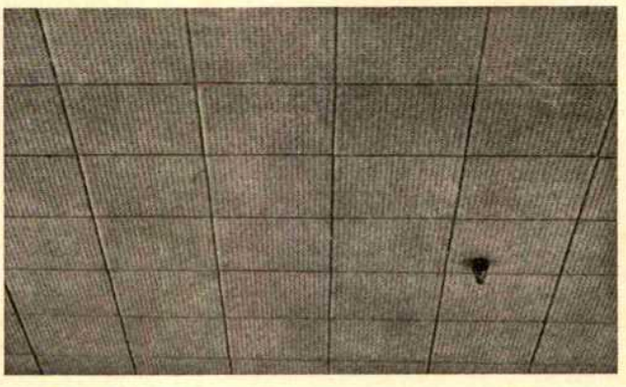
These are results obtained from ordinary offices where the noise volume was not, according to present-day standards, excessive. If, for instance, your offices and workrooms are very noisy, you would probably get more startling figures than those quoted.

Manufacturers of office machinery were among the first to recognize the noise evil. That is why they produced silent typewriters, silent book-keeping and accounting machines, etc. Development of the use of noise-insulating materials in modern business and industrial buildings again shows recognition of the noise problem. And the use of this new type of *sound-absorbing* material is a further and very important step forward in the struggle to control noise.

In America control of sound in factories and offices has been adopted as a necessary condition. The study of the problem has been scientific. The principle of the new science is the acoustical correction of the interior surfaces of rooms so that noises are absorbed and do not "bounce" from ceiling to floor, which is a main cause of noise troubles.

Let us assume you wish to make your office and factory acoustically correct. How do you go about the task? You do not merely buy such a product as Acousti-Celotex and fix it to the ceiling. A skilled acoustics technician must first conduct an acoustical analysis of each room to determine the reverberation time—the time taken after a source of noise has stopped for the sound to die out to one-millionth of its initial intensity. When the technician has worked out these and other details he can safely advise you as to quantity and type of sound absorption materials needed.

Anyone who doubts the harmful qualities of noise should examine information amassed on the subject. Here are a few results of tests. They show the damage done to health: (1) muscles contract automatically in less than one-ten-thousandth of a second after a whistle is blown; (2) a loud noise causes electrical resistance of the skin to drop suddenly for five minutes after the noise has stopped; (3) pressure of the brain jumps to four times normal when an inflated paper-bag is exploded; (4) experienced typists expend 10 per cent more calories of bodily energy when working in an unquiet office—because of the tension of their muscles caused by noise; (5) noises louder than the human voice interfere with the secretion of saliva; (6) noise slightly louder than the human voice depresses digestive contractions of the stomach; (7) urine is increased in a noisy environment; (8) size of fingers, legs and arms decreases under noise.



This is an illustration of sound absorbing tiles used on the ceiling of an office. The 441 perforations per sq. foot add to rather than subtract from the appearance of the tiles. They can, of course, be painted to conform with any colour scheme and are proof against termites, vermin and damp

Those few points explain to some extent why distraction, frayed nerves and kindred complaints are so prevalent among all types of labour. Indeed, it is common knowledge that the "nervous breakdown" kind of illness is largely due to the noisiness of life to-day.

A sound-absorbing material such as Acousti-Celotex can be used in any type of building. It can, for example, be painted without loss of its sound suppression qualities. Investigation by independent authority shows that the tiles, treated with white or light cream interior paints, have a light reflection factor of 78 per cent. This meets the requirements even of indirect lighting schemes.

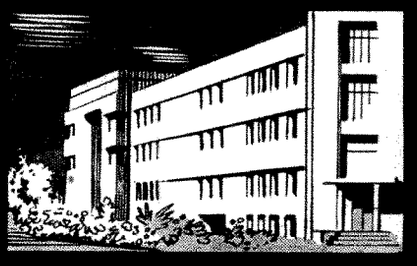
Free Technical Service Here For You

Other interesting information is: the tiles are made largely from bagasse, the tough fibres of cane after the juice content has been removed; characteristics of the fibres are that they contain minute air cells, have "saw-tooth" structural surface and are of unusual length, strength and resiliency; the tiles are treated chemically so that they are proof against termites, vermin, damp and rot.

Readers of BUSINESS can have a technical service, free of charge or obligation, from Celotex, Ltd.

What Paint shall we Specify?

AN ANSWER TO EVERY PROBLEM—ON THE DECORATION SIDE!



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TUNGCRETE

WEATHERPROOF IMITATION STONE PAINT

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Home Office Regulations permit surfaces painted with SISSONS FACTORY WHITE to stand for 7 years without repainting.

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FLATOMUR

SUPERB OIL FLAT WALL FINISH

BONOGLOS

HARD BRIGHT GLOSS PAINT

OUR INDUSTRIAL DEPARTMENTS are ever ready to give free advice and specifications on any problem of decoration and a staff is employed for personal attendance at any job. Write for full information and tint cards to:

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IF you could gather for yourself all the latest news, developments, and the most successful plans in the advertising field, and those selling methods proved soundest in selling practice—

How much would it be worth to you?

Pounds and Pounds! For it would help you to get more out of your advertising and to increase your turnover and profits. But the cost, if you did it yourself, would be prohibitive.

Here is a way you can do it for less than a penny a day.

For in the pages of the ADVERTISER'S WEEKLY there comes to your desk every Thursday just such a complete report as you could wish for, on the most recent news and developments in advertising and selling and in the latest ideas in Press, Poster, Direct-Mail, Outdoor, Sign, Film, Novelty and every other branch of advertising. In addition, you also get Marketing Surveys both regional and overseas, which show you the sales possibilities and facilities in all the markets covered.

To secure all these sales and advertising ideas, facts and data regularly every week, you need simply order your newsagent to deliver "ADVERTISER'S WEEKLY" every Thursday morning. Or, if you prefer, first send a post card for a specimen copy TO-DAY to the Publishers:—

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TEMPERATURE CONTROL by MAGNETIC VALVES

In office

or factory

is an essential factor of EFFICIENCY

★ *Write for the book "Temperature Control for all purposes"*

THE MAGNETIC VALVE CO. LTD

BUSH HOUSE W·C·2 · PHONE·TEMPLE BAR 7777

Here is a Complete Factory Service

(*Continued from page* 33)

viewpoint of all kinds of manufacturers—clothing, metal, radio, foodstuffs, engineering, furniture, etc.

It is this extensive practical knowledge of industrial conditions throughout the Home Counties that enables the firm's executives to get building plans passed in a matter of hours where your representatives might take days or weeks. They know all the little local snags that so often cause tiresome and costly delays. They know the points on which this council or that will hold up progress.

This Service Is Available On Countrywide Scale

Although the service is available for areas outside the Home Counties, it is in the London industrial zones that the company has concentrated its efforts. All ten industrial estates are located in metropolitan districts. The estates are: Lea Bridge, Leyton; Seymour Road, Leyton; Park Estate, Tottenham; Morden Estate; Croydon Estate (Purley Way); Willoughby Lane, N.17; Barking; Sydenham (Kent); Enfield (Cambridge Arterial Road); Wimbledon Estate.

The largest of these estates is that at Croydon, which covers an area of 30 acres. Some of the smaller are Barking, 13 acres; Wimbledon, 12 acres; Enfield, 15 acres. On each estate all the usual services needed by manufacturers are available. Buildings with floor spaces ranging between 10,000 and 20,000 sq. ft. are held ready for immediate occupation for concerns that want a factory in a hurry. Estates are provided with concrete roads and yards.

In addition to the estates, the firm has a number of individual sites available. If, however, location on any of the estates or existing individual sites is not suitable, the company is willing to find a special site for you.

One of the most important parts of the service is the knowledge and skill the firm's staff bring to the job of building your factory. It is planned from A to Z to ensure that all factors are favourable for high-speed, economic production. Naturally, the design of the building will be approved and passed by you even if the company look after all the detailed drawings. Most of the Commercial Structures planned factories are, of course, the ground-floor or "daylight" type of building. Construction has to some extent been standardized so that building costs have been brought to a low level. Other advantages include: (a) easy extension when required; (b) maximum natural light to the manufacturing area; (c) even temperature throughout the building; (d) healthy and contented employees; (e) easy supervision of operatives; (f) low overhead charges; (g) economical sequence of operations.

Turn to The Home Market section for charts and maps that show you current business conditions at a glance. In this section, too, there is

The Business Trend
News of Home Markets
Marketing Trends

Average Output Increased By 10 per cent

Firms that have moved into this up-to-date type of factory have all noted improved output and less sick leave amongst staff. With the same machinery and the same number of employees, some companies have increased production by 10 to 20 per cent. On average, it is found that in this type of factory output is increased by about 10 per cent.

All factories are for sale or rent. The land is freehold and is sold as such. On the estates, plots have been apportioned out to allow for erection of buildings of 10,000 sq. ft. floor space and upwards.

If you do not wish to buy land and buildings outright, you can take up a scheme of rent-purchase which can be extended over a period of years. By another arrangement you can have a building erected to your requirements and buy it with mortgage assistance. Yet another plan is to have a factory built to your design and lease it with an option to purchase at a later date. Apart from these standard schemes, the company is willing to discuss any special proposals you may have in mind.

He won't be back for SEVEN YEARS...

★ ★

Factory interiors painted once every seven years with FEROX White for Factories conform with the requirements of the Factories Act, and the necessity of limewashing every fourteen months, with its attendant inconvenience and increase in cost of labour and materials, is obviated.

FEROX White for Factories can be brushed or sprayed over old distemper without fear of scaling. It gives an 'eggshell' finish which is washable, non-absorbent and hard wearing, and can be made glossy or matt by the addition of oil or turpentine respectively.

FEROX WHITE FOR FACTORIES

THE WALPAMUR Co., Ltd.
DARWEN · LANCS.

Particulars of FEROX White for Factories and ther industrial paints supplied on request

Cost of A.R.P. Shelters

(*Continued from page* 34)

splinter proof. To provide this quality walls may be strengthened with 15 in. thickness of mass concrete or 12 in. thickness of reinforced concrete. You must also consider the amount of walling to be constructed in the basement to enclose the shelter space and to form gas-locks, lavatory accommodation, etc. Emergency exits are also needed. These should be designed and placed to avoid becoming blocked by debris. Usually reinforced concrete passages from the shelter to the ground surface are needed.

The chief consideration is to make a basement shelter safe from collapse of the building above. It is uneconomical and unnecessary to guard against a direct hit where the bomb penetrates the building to the roof of the shelter(s). The chances are against that happening. It is more likely that the terrific blast of a heavy bomb falling near the building will blow in the walls.

The economic strength for the roof of a basement naturally depends on the type of building and number of stories above. For buildings with floors designed for a normal superload of 100 lb. per sq. ft. it is suggested that shelter roofs should be strong enough to sustain a static load of 80 lb. per sq. ft. for each of the floors above. On this basis a basement shelter roof of a nine-story building would be designed for a total emergency load of 800 lb. per sq. ft.

Although no official recommendation has yet been made, a good rule is that a basement shelter roof should be strong enough to bear safely not less than 4 cwt. per sq. ft. in addition to its normal dead and live loads.

This Table Deals With Load Problems

In the table on page 34, published by permission of Mr. L. Scott, M.Inst.C.E., M.I.Struct.E., similar reinforcement is provided in both directions for the purpose of distributing the effects of heavy local loads due to falling masonry, etc.

The strength of a basement roof can be ascertained if the original detail plans of the building are available. If not, examination and measurement by a competent authority will provide the facts. Strength of walls and floors must also be known, as reinforcement to take the additional burden will probably be needed. But to settle all these points—indeed, to tackle the whole problem—you need the advice and work of competent technicians. *This advice can be obtained free and detailed plans and estimates can be had for a nominal fee by readers of* BUSINESS. The service is provided by Woodward & Co. (Finsbury), Ltd., a firm of builders specializing in A.R.P. work.

The important matter of total cost of making effective shelters in basements of buildings cannot, of course, be decided without full investigation in each case. If your building can be adapted easily to provide protection, the total cost may not exceed £100; if the job is difficult, the cost may be many times that sum.

STILL FORGING AHEAD!

Lancashire probably did more than any other county during the eighteenth century to make British Industry world famous.

Lancashire's progress in recent years is not less striking than the Area's meteoric rise to fame in the days of the Industrial Revolution. Here are some facts of Lancashire's record since 1931 :—

1. More than 600 new industrial establishments and 200 factory extensions ;
2. Against 360 fewer textile mills there are 1,860 more non-textile factories ;
3. Over 20 idle textile mills have been converted into factories for other products, and employment for more than 25,000 workpeople is promised by enterprises introduced by the Lancashire Industrial Development Council.

New enterprise calls for ideal conditions — Lancashire offers the right combination and adds a maximum of encouragement.

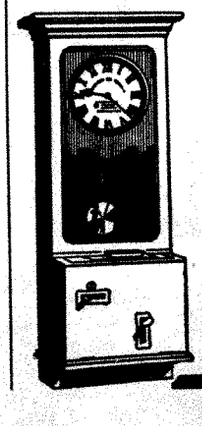
Enquiries for factories and sites and all relevant information are welcomed and will be dealt with in confidence and free of charge by the

LANCASHIRE
INDUSTRIAL DEVELOPMENT COUNCIL

General Manager:
J. BENNETT STOREY

Ship Canal House,
King Street,
Manchester, 2

Preliminary information obtainable through the Travel & Industrial Development Association of Great Britain and Ireland, 29, Cockspur Street, London, S.W.1, British Empire Building, Rockefeller Center, New York, and 28, Avenue des Champs Elysees, Paris.



SUMMER TIME

calls for increased supervision. The natural tendency to "ease up" during the holiday months can be checked by the "G.B." System, the modern way of increasing efficiency. Summer time is just as valuable as winter time—don't have it wasted. Investigate the "G.B." System, which gives an indisputable record of time worked and keeps down your overheads.

Send for full details, catalogue, etc.

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TIME RECORDERS LTD.
38, EMPIRE WORKS, HUDDERSFIELD

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The rougher the road . . .
the faster the run . . .
the tougher the job . . .
the better you can rely on me . . .

I am the new INDIA commercial vehicle tyre

Longleys 1884

The Mechanical Horse

(*Cont. from page* 15)

types of vehicles capable of carrying equally big loads.

The compact tractor unit occupies very little space in the garage or running shed while, thanks to the full articulation of the complete combination, the trailers can be parked closely together almost anywhere: even left in the open, if necessary. This means substantial economies in the cost of garaging, heating and other standing charges.

With regard to Scammell mechanical horse maintenance costs, the designers have allowed generous dimensions for all wearing parts of the chassis mechanism, and with ordinary attention to lubrication the vehicles can be relied upon for continuous service over a very long working life.

As the whole chassis mechanism comprises standard units, the vehicles can be serviced by a mechanic of average skill. Replacements, as and when needed, which are obtainable from the Scammell works at Watford or from depots in main provincial towns, can be fitted by the operator in his own garage.

For the convenience of fleet users not having repair facilities of their own the manufacturers have a unit replacement scheme whereby any major portion of the chassis mechanism can be replaced from stock immediately while the original unit is being repaired, thus ensuring the maximum vehicle availability at all times.

In certain cases, too, the manufacturers will place a complete motive unit at the disposal of users while their own is under overhaul.

While at the works I went carefully into mechanical horse operating costs, which, tabulated in the panel, will give any prospective user a fairly accurate idea of the economies to be obtained.

A New Highly Efficient Diesel Unit

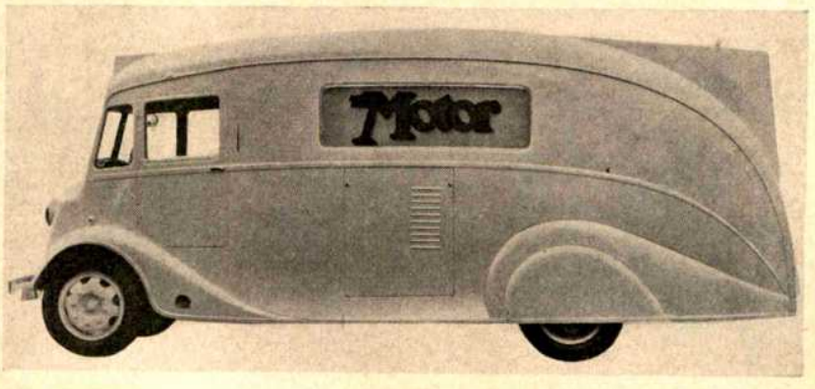
In their 1938 range Scammells include an oil-engined mechanical horse. Resembling the standard 6-ton model, it is equipped with a Perkins Diesel engine. It is claimed that this model with a 10-ton load has approximately the same performance as the petrol-driven 6-tonner.

According to figures provided by a concern employing two of these latest Scammell-Diesels for delivering grain from the docks to a granary 2½ miles distant, the results are very satisfactory.

Each motive unit does two return trips per hour, handling 12 tons of grain each trip per vehicle, or 24 tons per hour per vehicle, which amounts to 384 tons per day for two vehicles (say 375 tons).

Working 300 days per annum, a total tonnage of 112,500 is carried by the two machines. The inclusive costs of operating amount to £1,470, so that the cost per ton is about 3.15d. per ton.

The daily mileage covered by the two vehicles, each doing 16 trips per day of 5 miles, is 80 miles per day per vehicle, or a total mileage of 160 for the two machines. The annual mileage for 300 working days is, therefore, 48,000, at a total cost of £1,470, or roughly 7.4d. per mile, including the cost and maintenance of a third carrier.



Streamlined, Neon lighted, Mobile Photo Dark-Room

THE feature about this vehicle is the striking bodywork. It is a high-speed mobile photographic dark-room built by Lancefield Coachworks, of Wrenfield Place, Beethoven Street, London, W.10, for Temple Press, Ltd.

Equipment inside includes gas heating as well as all the requirements in the way of water, sinks, benches, racks, etc., for photographic work. The door seen in the centre of the side gives access to a special electrical power unit which provides current for neon signs on the front and sides of the vehicle. The chassis is a Commer P.N.F.3.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

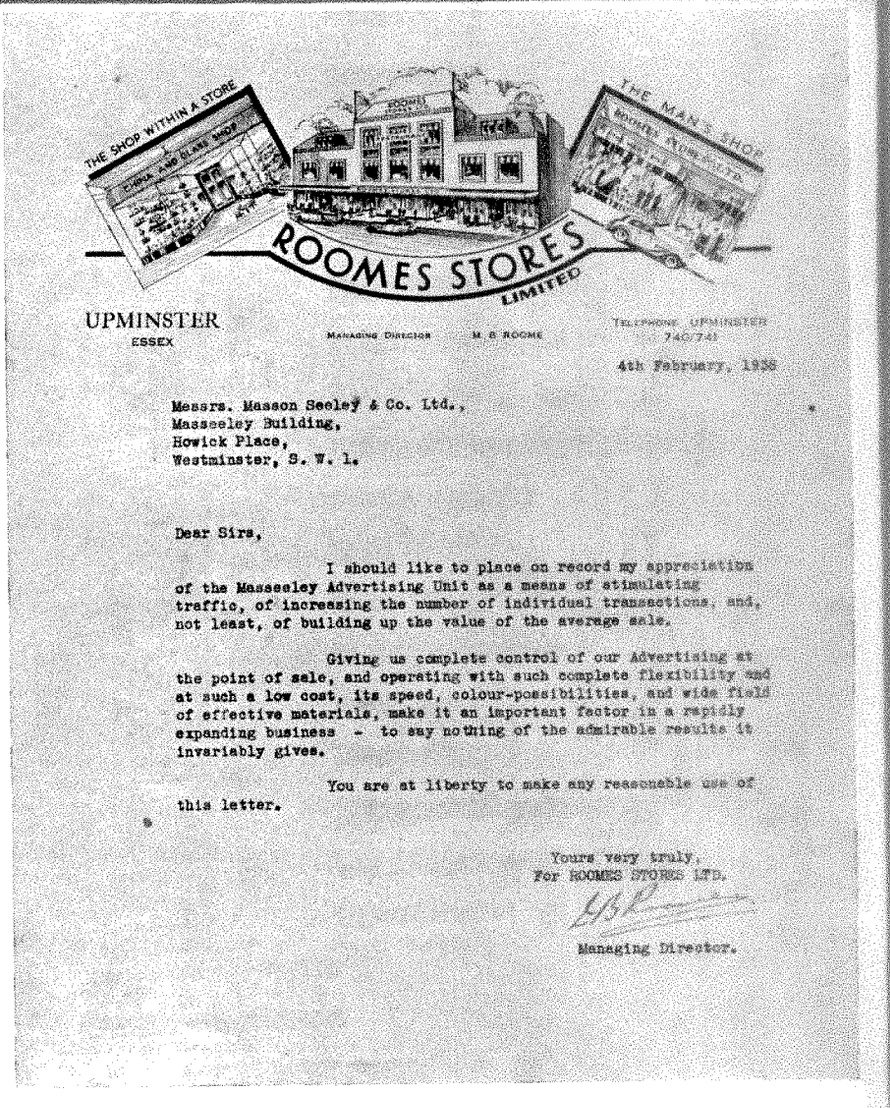
JULY, 1938

". . . to place on record my appreciation of the Masseeley Advertising Unit . . ."

★

SHOWCARDS, PRICE TICKETS, CUT-OUTS, WINDOW BILLS, POSTERS, PELMETS, Etc.

—made by your own staff, on your own premises, as single items, or in long or short runs: with an unlimited variety in colour, shape and material: a time-saving of at least 500% over any other process of production, and a striking economy in cost amounting to 50% or even more.



Do not risk a snap-judgment on a matter which means so much to your net profits. Arrange for a full demonstration, on your own premises, working at your own day-to-day Sales promotional requirements.

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BUSINESS ACTIVITY FACTORS OF THE U·K

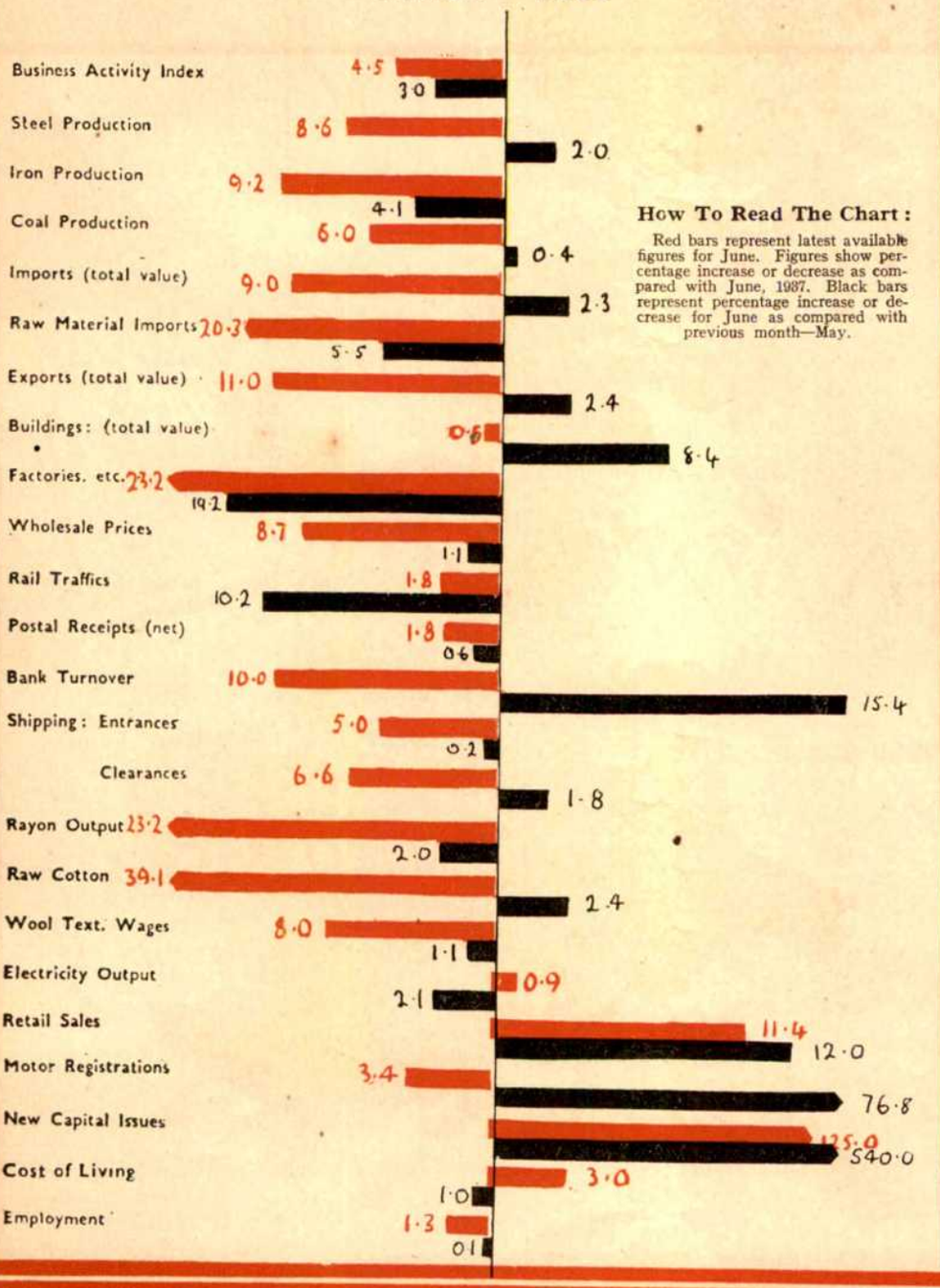
There is real encouragement in the bar chart this time. Look at the May plusses over April—2·0 per cent steel, 0·4 per cent coal, 8·4 per cent buildings, 15·4 per cent bank turnover, to mention a few. It seems there is a check to the slight recession and business is on the up-grade again.

Quiet optimism is indicated. Although most key figures are down as compared with May, 1937, the decline is slight.

Taking a long view, conditions favour the business man who is not afraid to plan ahead. If you prepare now to go after business you should reap a rich reward in the autumn-winter months.

22 VITAL FACTORS

MINUS : PLUS



How To Read The Chart:

Red bars represent latest available figures for June. Figures show percentage increase or decrease as compared with June, 1937. Black bars represent percentage increase or decrease for June as compared with previous month—May.

THE BUSINESS TREND

What Sor

By CEC

IF May was shattering to confide June was almost reassuring. T was no major European crisis Stock Exchange jitters either in Lo or New York. On the contrary, we a few indications of a halt in the months' backwards slide.

The building figures were surprisi good. After a fall of 24.1 per ce May there was a rise of .5 in Jun startling recovery. Admittedly, t figures are dependent upon the date which local buildings sub-commi met, but so great an improvement total covering 146 town and co councils outside London could sca be a fluke.

More People Crying 'Shop' in Suburbia

QUITE surprising was the impr ment reported in shop sales; this menced in April. Although Easte in that month, the rise of 11.4 in over last year dwarfs the fall of 5 cent in March, the Easter month of year. Best of all, employment in s rose by 2 per cent. This suggests the public is buying more courageo outside Central and West End Lon further evidence for my belief that suburban store is now more successf competing with the West End.

Bread and Butter Money Was Buying Bread Only

THE slight fall in prices may h helped retail sales; certainly cost of living was beginning to rise fa than wage rates. Is this the secre the fall in motor-car sales? Ten per fewer cars were produced between O ber and March than a year ago; 6 cent fewer commercial vehicles.

For each single month there was a fall below the level of last year. the fall in car sales coincides, not the shocks to confidence early in year but with the rise in price annou last autumn—a fact which I comm to the attention of sales directors. sults are surely justification for the f bodings I expressed last autumn a the rise in prices.

So far the slight fall in prices has helped foreign trade; a fall of 11 per in exports, even allowing for two n working days in May, 1937, is unsa factory enough; the fall of 20 per in raw material imports, of 39.1 per in raw cotton imports is a bad omen autumn.

The fall of 15,000 in the numbe employed is about normal and enti

ALFRED BATES & SON LTD

The NATIONAL Advertising Service

130, FLEET ST., LONDON Central 8831

f Autumn?

ISHOLM, M.A.

o the serious slackening of the coal, n, woollen and engineering indus- Curiously enough, the total fall ıe employed of 148,000 is just ıced by the increase in unemploy- over last year in cotton (78,000), ens (28,000), and metal and engi- ng (46,000). Increases in other in- ies absorbed a large number of g people who came on the registers e end of the Easter term, so that ituation outside cotton and coal is strengthened.

r the rest most of the figures a perfect example of a cyclical sion. Indeed, a 6½ point fall in *Economist* Index between January April is sharper than the similar fall een August 1929 and April 1930, the index fell 5 points. Between st 1937 and April 1938 the index ½ points.

ain Can 'Take' e or Big Slump

HE urgent question is whether the recession is a major or minor one. ing by the League of Nations s for world trade it is uncannily spread. The index for world trade allen by 12 points, from 100 in the quarter of 1937 to 88 in the first er of the present year. Raw mate- prices begin to harden, and there a slight stiffening up of freight in mid-June. With Germany, and Japan as almost isolated

---

Business Regional Indices

very from the minor recession is the vital point nal activity indices published this issue. Look upward curve of the line for London, South l, North and Midlands! That is cheerful e of renewed trade and improved conditions. loes not mean we have got a boom on us or g like that: but it is a good sign that busi- holding up. If this encouraging progress is ned—as it should be—the final quarter of this ll be prosperous for industry and commerce. ig fall for Scotland might be misleading. It esult of sudden peak activity in many direc- rough Glasgow Empire Exhibition work in Naturally, this activity declined in April, ly such factors as building and volume of cial car licences. The results show up matically now in the indices.

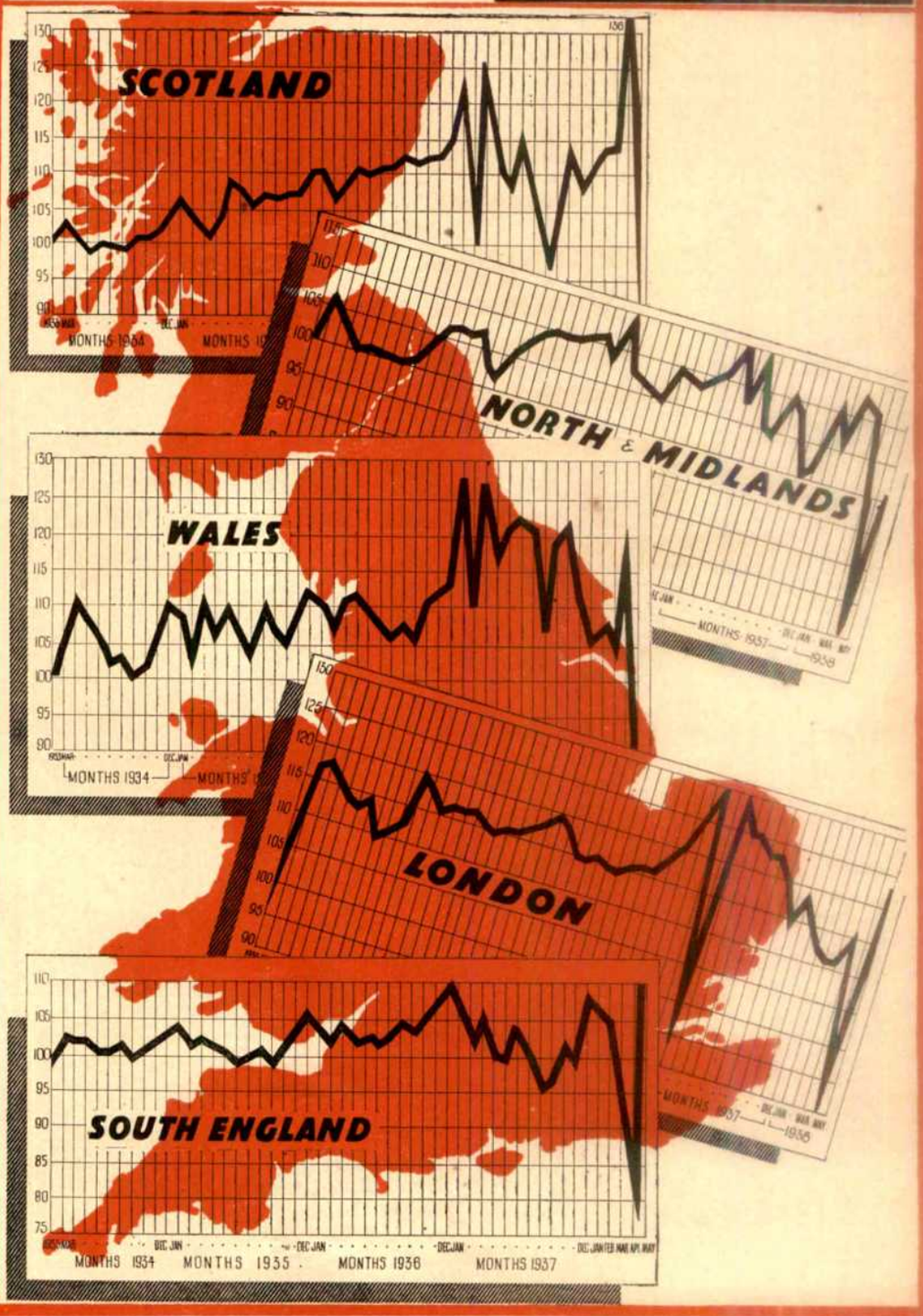
n and South England record about 30 increase in May (provisional figures) as com- vith April (revised figures). Much of this is seasonal recovery but it is a healthy sign. still is the fact that the North and Midlands a 20 point progress. This means work is at level, production is being maintained and sales g made.

g a broad view of conditions as reflected in ices, it seems that manufacturers can plan vith some confidence.

Reading the Indices

hese new indices, the average business activity area during 1933 is taken as the base (=100). lices are given by months.

BUSINESS REGIONAL ACTIVITY INDICES



53, LORD ST., LIVERPOOL Bank 6321
68, GORDON ST., GLASGOW Central 6107
12, LEEDS RD., BRADFORD
25, NEW BRIDGE ST., NEWCASTLE
74, GEORGE ST., EDINBURGH Edinburgh 24019

economic units; with tariff walls still around almost all markets; with currency restrictions still much in use, the normal force of the economic cycle is temporarily broken. Nor are there the excessive prices, the huge stocks, the over-extended credit of 1929 to hasten an economic crash. For that reason even a world recession to-day is likely to cause only a minor recession in this country. The pump priming of the rearmament programme must rapidly make itself felt, so soon as a number of armament factories are in production. So the price slide may be stopped in the home markets.

This autumn's business will be decided largely by three factors: by whether the new promise of recovery in the United States proves to be justified or merely another illusion; by how far rearmament eases off the fall in factory building; by how far Admiralty orders take up the slack in the yards now finishing civil contracts.

Uncle Sam's Business Being 'Yanked' Ahead

AMERICA's situation is still difficult to assess. A slight improvement in building plans passed is reported; brighter steel prospects are in evidence; the wholesale price index has advanced for two weeks running. Cotton mill activity has shown a sudden spurt; motor production is rising ahead of the normal seasonal trend; pump priming will soon be in full swing. Congress has gone a good deal further than President Roosevelt ever intended with that popular process; indeed, his first estimate of £1,000,000,000 will apparently become £1,200,000,000 or more.

Anything like a better feeling in America is more than welcome—being the first essential towards world recovery. Unfortunately there is no general evidence that business feels any more kindly towards Mr. Roosevelt. The question is whether his astonishing recovery of popularity will compel a truce; if it does, the biggest step towards American recovery would have been taken; but how long will any American revival last? Can any upturn survive continued budget deficits, high state and municipal expenditure and internal prices out of line with world prices?

Price Drop Pauperises The Primary Producers

THE failure of America to recover is the more disappointing because most of the raw material-producing countries are already feeling the effects of declining prices. Business is suffering in Europe too outside the totalitarian States; even Belgium, Switzerland, and Holland show a slackening off. In Scandinavia, however, business is well maintained, fortunately for the British exporter.

Weighing up the various factors reviewed, how may one expect the pendulum to swing this autumn? Many economists expect continued recession and less than the usual autumn upturn. Two great financiers, one conducting a national industry, have told me during the last few days that they are certain rearmament will start a price rise that will bring a strong revival in this country.

Rearmament Defence Against Recession?

CONSIDERING the world situation, however, is it not much more likely that rearmament will merely stem the recession and give us a normal autumn upturn? Certainly more healthy and more likely to last.

Every executive does his share towards securing this upturn when he takes every opportunity to pass on lower prices to his customers and to get every foreign order that he can reach. Very shortly an adverse balance of trade will be a real peril, as the Government's rearmament budgets expand their demands on our nearly stationary population.

SCOTTISH ADVERTISING AGENTS

understand the Scottish Market thoroughly

Personal Service...

The Products of many well-known Scottish firms are advertised by Maxwell Nicholls and Partners. Formed in 1913, the Agency has offices in Edinburgh and Glasgow, each under the direction of a resident partner with an intimate knowledge of Scottish advertising problems.

MAXWELL NICHOLLS AND PARTNERS

Registered Practitioners in Advertising

71 George Street, EDINBURGH
45 Hope Street, GLASGOW
84 Albion Street, LEEDS

InScotland

leading manufacturers entrust their advertising to the Agency known for its good service, its understanding of markets and its technical efficiency.

David H. Pearson
Advertising Ltd.
113 WEST REGENT ST.
GLASGOW, C.2

Advertising
GENERAL & TECHNICAL

THE R. G. BROWN
ADVERTISING AGENCY
166 BUCHANAN ST., GLASGOW
Phone: Douglas 1214/5
Grams: "Syren, Glasgow"

★

MITCHELLS
-for preference

COMPLETE ADVERTISEMENT SERVICE
68
GORDON ST.
GLASGOW, C.1.
Phone: Central 1205/6
Grams: Mitchelad

The McMURTRIE
ADVERTISING SERVICE
11 BOTHWELL STREET
GLASGOW, C.2.
PHONE CENTRAL 1955-34

Registered Practitioners in Advertising

SOMMERVILLE AND MILNE

REGISTERED PRACTITIONERS IN ADVERTISING

19 ST. VINCENT PL.
GLASGOW C.1

TELEPHONES
CENTRAL 1656-7

PHOTOGRAPHERS
COMMERCIAL ARTISTS
PROCESS ENGRAVERS

"To all who visit the Exhibition we extend a warm invitation to inspect our Works."

SCOTTISH STUDIOS
& ENGRAVERS LTD.
196 CLYDE ST.
GLASGOW

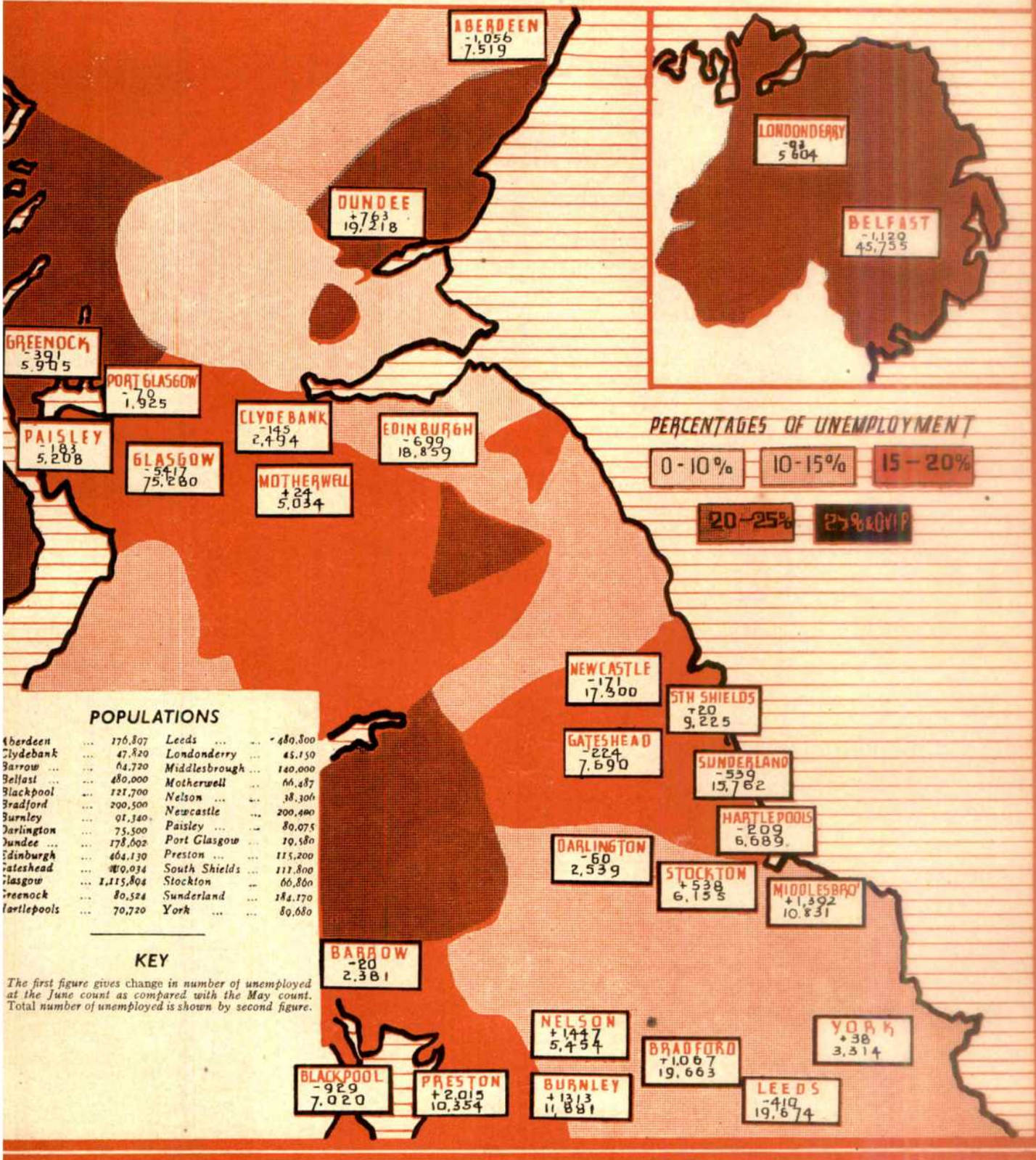
ON THE SPOT

On all matters relating to Scottish Advertising it is advisable to seek the aid of the Agency on the spot. We have had over 50 years in which to study Scottish Folks and can very capably settle your Scottish appropriation problems.

PETER A.
MENZIES
111 Bath Street, Glasgow.
Telephone: Douglas 2354/5
Grams: Menzads, Glasgow.

"BUSINESS" SURVEY OF HOME MARKETS

SCOTLAND and THE NORTH



POPULATIONS

Aberdeen ...	176,807	Leeds	480,800
Clydebank ...	47,820	Londonderry ...	45,150
Barrow	64,720	Middlesbrough ...	140,000
Belfast	480,000	Motherwell ...	66,487
Blackpool ...	121,700	Nelson	38,306
Bradford ...	200,500	Newcastle ...	200,400
Burnley ...	91,340	Paisley	80,075
Darlington ...	75,500	Port Glasgow ...	19,580
Dundee	178,692	Preston	115,200
Edinburgh ...	464,130	South Shields ...	111,800
Gateshead ...	100,034	Stockton	66,860
Glasgow ...	1,115,804	Sunderland ...	184,170
Greenock ...	80,524	York	80,680
Hartlepools ...	70,720		

KEY

The first figure gives change in number of unemployed at the June count as compared with the May count. Total number of unemployed is shown by second figure.

Make a note of this . . .

"BUSINESS" will again this year incorporate within its September issue an

ANNUAL REVIEW & REFERENCE NUMBER

of modern equipment for successful control of Factory, Sales and General offices.

★ *Your opportunity to enlarge upon the specific value of your own equipment to commerce and industry*

ART WORK FOR ADVERTISING

Is more than just making drawings. However good a drawing may be, if it doesn't sell the goods, it's a bad drawing. Our artwork is not only good art but good advertising.

RALPH & MOTT

Creative Service for Advertisers

ADVISERS — ARTISTS — COPYWRITERS
46 GILLINGHAM ST., S.W.1
Telephone VICTORIA 7362

ALL that is New, Original, Proved, Practical and *Usable* in ADVERTISING and MARKETING

Comes to You In The

ADVERTISING MONTHLY

1/-

Devoted Exclusively to the Interests of Business Executives, Directors and Managers, whose Job it is to Widen Distribution and Increase Demand

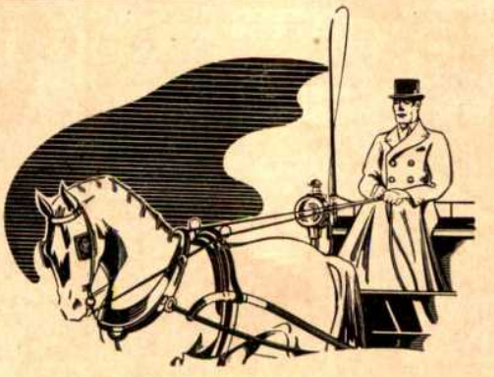
Order from your Newsagent TO-DAY or write for Specimen Copy to the Publisher, The ADVERTISING MONTHLY, Whitefriars House, Tallis Street, E.C.4

PRINTING

- designed with intelligence
- backed by experience
- produced with speed

BEMROSE & SONS LTD

AFRICA HOUSE · KINGSWAY . LONDON W·C·2
MIDLAND PLACE · DERBY



drive it home!

The illustration and design of advertisements, booklets, catalogues — any class of printed matter — comes within the scope of the K & C creative studio. Artwork is produced for all manner of trades and undertakings, all with the object of selling simply and effectively. The work is good and reproduces well. It *does* convey the story the client has in mind: it *does* drive it home! Please allow us to quote for your next order.

KNIGHTON & CUTTS LTD

BLOCKMAKERS, ARTISTS, PHOTOGRAPHERS, TYPESETTERS, ELECTROTYPERS, STEREOTYPERS • HAM YARD, PICCADILLY CIRCUS, LONDON, W.1 • PHONE: GERRARD 5231 (many lines)

Any job of MAILING is a job for PERRY'S

MAILING SERVICES LIMITED

DIRECT MAIL ADVERTISING CONSULTANTS

Addressing · Enclosing · Mailing · Facsimile Letters · Personalising

PERRY HOUSE, 120/128 UNION ST., S.E.1

SERVICES & SUPPLI

DIRECT MAIL in all its branches

Partner in leading direct mail organization has recently launched out on his own account. First-class service, keenest prices for all types of mailing work. Send for details to Box 402, Business, Whitefriars House, Tallis Street, E.C.4.

FOR HIRE!

MODERN SALOON —CAR

Chauffeur Driven - - No Restricti

LONG OR SHORT CONTRAC

Box 398, Business, Wh friars House, Tallis Str London, E.C.4

PRIVATE TRANSPORT CONTRACTOR requires

EXTR LOAD

between

LONDON & MIDLAND

Regular Daily Service

Box 399, Business, Whitefriars Ho Tallis Street, London, E.C.4

DO YOU REALISE

1. That it is costing us a frac of a penny to address message to you.
2. That it will cost you the to place your story before pair of eyes that reach this
3. That over 17,000 important ness executives read this jou from cover to cover each m

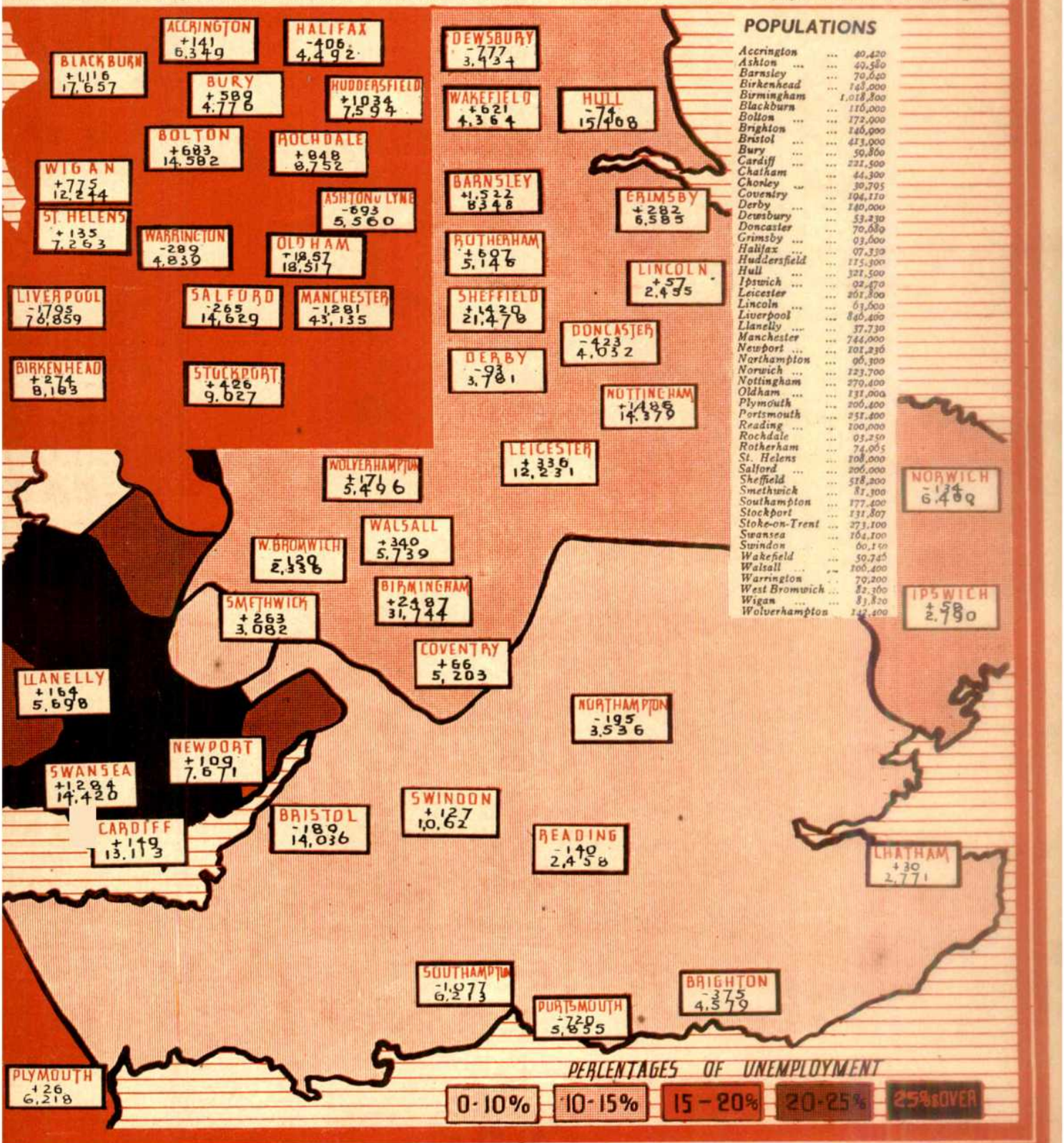
Write for particulars of these spaces to

SPECIALISED ADVERTISEMENT MANA BUSINESS, Whitefriars House, Tallis St., E

"BUSINESS" SURVEY OF HOME MARKETS

SOUTH and MIDLANDS

Key: first figure gives change in number unemployed at June count as compared with May count. Total unemployed is shown in second figure



POPULATIONS

Accrington	40,420
Ashton	40,580
Barnsley	70,040
Birkenhead	148,000
Birmingham	1,018,800
Blackburn	116,000
Bolton	172,900
Brighton	146,900
Bristol	413,900
Bury	59,860
Cardiff	221,500
Chatham	44,300
Chorley	30,795
Coventry	194,110
Derby	140,000
Dewsbury	53,230
Doncaster	70,689
Grimsby	93,600
Halifax	97,330
Huddersfield	175,300
Hull	321,500
Ipswich	92,470
Leicester	261,800
Lincoln	61,600
Liverpool	840,400
Llanelly	37,730
Manchester	744,000
Newport	101,236
Northampton	96,300
Norwich	123,700
Nottingham	270,400
Oldham	131,000
Plymouth	206,400
Portsmouth	251,400
Reading	100,000
Rochdale	95,250
Rotherham	74,965
St. Helens	108,000
Salford	206,000
Sheffield	518,200
Smethwick	81,300
Southampton	177,400
Stockport	131,807
Stoke-on-Trent	273,100
Swansea	164,100
Swindon	60,140
Wakefield	50,745
Walsall	100,400
Warrington	70,200
West Bromwich	82,360
Wigan	83,820
Wolverhampton	142,400

NORTHCLIFFE NEWSPAPERS THE 10 TEST TOWNS

TEST YOUR ADVERTISING ECONOMICALLY

IN A *PROVED* TEST MEDIUM

No. 6. EVENING SENTINEL STOKE-ON-TRENT • MARKETING BOOKLET FREE ON APPLICATION •

JOHN COOPE • Advertisement Director • NORTHCLIFFE NEWSPAPERS GROUP, LIMITED • Carmelite House, London, E.C.4. Phone: Central 6000

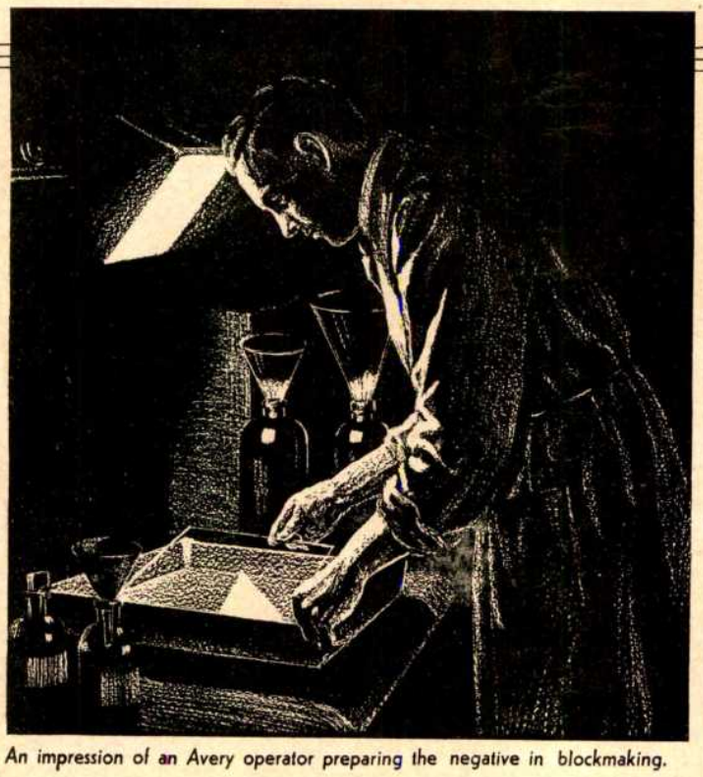
Here's *NEWS* of Active Home Markets

Special Reports from the Centres

GREATER LONDON

£100,000 Is Being Spent by London Passenger Transport Board for lengthening platforms, etc., Central, West End Tube stations—Directors G.W.R. have placed contract with Fairfield Shipbuilding & Engineering Co., Ltd., for steel girders and other iron work—City of London Corporation has ordered from Karrier Motors, Ltd., 9 tractor-trailer refuse collectors. City of Westminster Corporation and Deptford Borough Council both buying tractors from Karriers—Apex Vactric, Ltd., are installing conveyors for assembly work at their new factory, Stanmore, Middlesex.

Metropolitan Water Board is getting tenders for construction of large reservoir to south of Knight & Bessborough reservoirs, Walton. New reservoir is to cover area of 374 acres, will have capacity of 4,400,000,000 gallons—A.R.P. work throughout London area now taking place on large scale. Latest estimates reveal total expenditure amounting to hundreds of thousands of £s. About 100 firms in the city are preparing shelter schemes for staff. Woodward & Co. (Finsbury), Ltd., builders specializing in A.R.P. work, now have 150 representatives of firms attending lectures on A.R.P. organization. Which suggests market for A.R.P. products in London.



An impression of an Avery operator preparing the negative in blockmaking.

AVERYS

Blockmakers of Distinction

In addition to expert photo engraving we specialise in ARTWORK, RETOUCHING, PHOTOGRAPHY, TYPESETTING & STEREOTYPING. Avery craftsmen co-operate to give you a complete advertising service Day & Night.

From Rough Layout to Finished Block

AVERYS SERVICES LTD

37-41, LOWER MARSH, S.E.1 *Phone* WATerloo 4027

SOUTH

Largest Single Contract for aeroplanes placed in this country is being awarded by Air Ministry to Phillips & Powis Aircraft, Ltd., Reading. Order is for high-speed trainers with Kestrel engines (made by Rolls Royce). Delivery is to be completed in year or two—Air Ministry has also placed big orders for Airspeed Oxford monoplanes with Airspeed, Ltd., Portsmouth. Further orders are placed with De Havilland Aircraft Co., Hatfield; Percival Aircraft Co., Luton; additional orders to Airspeed, Ltd.—Part of heavy spending in defence programme is benefiting factories at Welwyn, Letchworth, Southampton and Guildford—Two new industries are being established in Basingstoke, Hants. Kelvin, Bottomley & Baird will manufacture aeronautical instruments; Eli Lilly Co. are manufacturing chemists.

MIDLANDS

Six Big Companies now engaged on special aeroplane production are Austin Motor Co., Ltd., and Rover Co., Ltd., Birmingham; Standard Motor Co., Ltd., Daimler Co., Ltd., and Rootes Securities, Ltd. (Humbers), Coventry; Bristol Aeroplane Co., Ltd., Work at all these firms' new factories is going to schedule, employing thousands of men and women —New rolling mills for light alloys, Birmetals, Ltd., near Birmingham, has started operations—Beresford & Sons, Ltd., Birmingham, now manufacturing trailer fire pumps. Production is on large scale.

20 Years of Speciality Selling

The intimate problems associated with this sphere of marketing are keenly discussed by a well-known manufacturer in the article on Page 13

Extensions Costing £90,000 are being undertaken by Darwins, Ltd., Sheffield. New machinery and mills for production of "revolutionary" type of steel for use in aeroplane, motor-car and other industries is to be installed. Extensions will increase size of works by 25 per cent —Chesterfield Tube Co. is equipping new shops with heavy tube-making plant to manufacture pierced and drawn weldless steel hollows of size and weight hitherto unobtainable by same process.

£8,000,000 Is To Be Spent by Birmingham Corporation to double output of the city's principal power station. Electricity consumption in Birmingham area nas increased 2½ times in past six years, hence urgent need to increase present supply—G.E.C., Wotton, have order to carry out complete electrification of Lurgan Power Loom weaving factory, near Belfast—£100,000 aircraft factory, Leicester, which will employ up to 1,000 people, is being built by Reid & Sigrist, Ltd.

Marketing TRENDS

Current Facts that will help in Shaping your Sales Campaigns

Three Items 'May' Flower For The Sales Executive

THERE are important facts clamouring for your attention this month: (1) strength of mass markets; (2) value of *spontaneous* spending market; (3) importance of chain-store selling.

Maybe you have heard them before, but these factors are always coming up for fresh consideration, with new interest for marketing men. They are specially significant just now because they may help you to get to grips with prevailing topsy-turvy conditions.

Outside these specifics there is the usual monthly harvest of key statistics. Not such a bad harvest, either. There are important plusses recorded for May as compared with April—steel and coal output, buildings, imports and exports, bank turnover, etc. (see bar chart, page 44), which suggests more stable conditions along lines mentioned here in recent months.

●

Can You Now Make Money 'En Masse'?

DESPITE pinch-penny policies evident for some some in certain markets the mass market is still expanding. Says Sir Herbert Morgan at Smith's Potato Crisps (1929), Ltd., annual meeting: "The average spending power of the people was never higher —and money is being spent. Existing waves of depression are not traceable in any way to the vast mass of the public. They are largely traceable to the buyers of high-priced luxuries, who always seem the first to be attacked by panic, so we are fortunate to be only interested in an article of universal consumption at a popular price."

There is truth and reassurance in that statement. If you are already in the real mass market, you know it; if not, it suggests two ideas. Firstly, is your product near enough to that market to get in? Secondly, can you get a "confidence" angle and appeal in your selling of luxury-class articles?

Here is a chance to do some careful thinking. Maybe to drop your price by as little as five per cent would send sales soaring. And there are many ways to make the cut possible—a little less expensive packing, not quite such a good container, a slightly smaller quantity of the article, and so on. Think it over. At the worst it will cost you brain fag; at the best it may solve your sales problem.

'Temptation Titbits' Tot Up Big In Profits

SPONTANEOUS spending is the unknown quantity in marketing, but it is worth having. Most successful example of catching odd pence to make millions of £s' profit is Woolworth's. This firm's stores are as full of temptation as a Sultan's harem. It is essential Woolworth marketing policy that customers come in to spend 3d. but see at least one article which draws another 3d. So it is with all department stores—and most shops, if it comes to that.

The problem is to control this spontaneous buying. The bulk of shopping is *planned* at home by the housewife. She spends so much on so many things. That, says many marketing men, is her limit. But it isn't. She will stop and have a cup of tea with a friend or buy a number of trifles she happens to see.

●

Catch Their Eye To Snatch Their Pence

THESE extra pence spent elsewhere make enormous totals. Take the instance of a big department store which was entered last year by 9,000,000 people. Only 5,000,000 individual sales were made, with an average value of 3s. 9d. per sale. If only one in twenty of the 4,000,000 visitors who did not buy could have been induced to spend the average sale amount the store's turnover would have been up £37,500. If the value of the average sale had been up a farthing the store would have netted an extra £5,208.

Figures such as these show the value of "temptation" sales. It is an argument for more vigorous point-of-sale effort. More attractive displays, demonstrations and other methods of getting attention pay handsomely. Most manufacturers could get busy on this phase of marketing and reap big returns.

You Needn't Get Into This Fight

LATEST chain-store sales figures spotlight a marketing problem—the importance of these stores as retail outlets. For instance, average profit per branch of both Woolworths and Marks & Spencers is about £9,100, although the former has 711 and the latter 230 branches. This suggests that the selling value of the stores is about equal so far as the manufacturer is concerned, that it is proportionately worth while to supply both firms.

Interesting, too, is the fact that this profit per branch is about £600 less than average gross turnover of the much-dreaded Co-op shops. Co-ops are losing trade to chain stores. There is a struggle between chains and Co-ops for low-price buyers. This indicates that Britain's 750,000 independent retailers can function efficiently as outlets for better-class goods. It seems manufacturers would find it worth while to pursue more vigorously a policy of building up independent retailers as outlets for superior brands of products.

●

'Show' The Way To A Big Sales Volume

MANY marketing men attended last month the fourth exhibition by "Artists & Photographers in Advertising", organized by *Advertising Monthly* (Business Publications, Ltd.) and held at British Industries House, Oxford Street, London, W.1.

Executives interested in sales and marketing are attending this annual exhibition in greater numbers each year. Why? Because they find massed there examples of almost every type of illustrative work used to-day in advertising. They find, too, ideas, new schemes and suggestions for marketing. They are able to get a fresh viewpoint on old problems, to discover ways and means of increasing sales.

A good instance of this trend of work is the case of a sales director of a well-known consumer product manufacturing company. He told me that one set of photographs exhibited at the show had given his firm an idea for an entirely new advertising campaign.

Apart from any other reason the need to keep up to date in the trend of illustrative work certainly makes this one exhibition that all executives on the advertising and selling side of business should attend. If you did not go this year make sure you do in 1939.

This preparation and handling plant for dealing with coal was supplied to Weirton Coal Co., Pennsylvania, by Simon Carves, Ltd., Cheadle Heath, Manchester. What about this as a good example of selling to a difficult foreign market?

CLASSIFIED ADVERTISEMENTS

ADVERTISERS ARE OFTEN SURPRISED

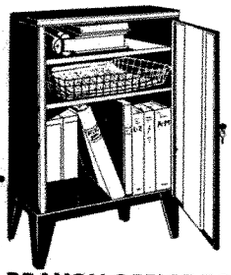
at the excellent results which emanate from a small advertisement in BUSINESS —but after all, the Classified Section is read with just as much interest as the rest of BUSINESS

RATE—2/6 a line (average 7 words to a line). Minimum 3 lines costing 7/6; each additional line or part of a line 2/6. Box No. counts as one line and is to be paid for; replies are forwarded free of charge; 2½% discount for 3 insertions, 5% for 6, 10% for 12. Payment with order for single insertion. Display panels 24/- per single column inch. Discounts as above. Special rate for "Appointments Wanted"; 3 insertions for the price of 2.

Announcements for the next issue should reach BUSINESS, *Whitefriars House, Tallis Street, E.C.4 (Phone Central 9891), not later than July 21.*

OFFICE EQUIPMENT FOR SALE

"A Large Selection of Ex-Government and OTHER STEEL AND WOOD OFFICE FURNITURE, INCLUDING FILING CABINETS, DESKS, CARD INDEX CABINETS, ETC. ALSO Plan Cabinets NEW AND SECONDHAND AT LOWEST PRICES.—WRITE FOR CATALOGUE. THE MISCELLANEOUS TRADING CO., LTD., 134/5 HIGH HOLBORN, W.C.1. HOLBORN 4894."



BRAVON
ALL-STEEL
CABINETS
For Account Books, Records, Documents, &c.
MODEL "A"
33/-
Carriage Paid
Send for complete List Free
BRAVON OFFICE EQUIPMENT CO.
56 Southwark Street, LONDON, S.E.1
Phones: Hop 2158-9

Adding Machines, Calculators, Statement Machines. Typewriters and all Office Equipment. New, Rebuilt and Second-hand. Bought, Sold, Exchanged.—Dixon Matthews & Co., 46 Pilgrim Street, Newcastle-upon-Tyne, 1.

Art Metal Visible Systems. If you have not had a recent demonstration you have missed the latest developments in this type of equipment. Or send for Catalogue P-60, Art Metal Construction Company, 201 Buckingham Palace Road, London, S.W.1.

Rubber Stamps and Marking Devices. Catalogue No. 20B, post free on request.—Richard E. Stromer, Ltd., 155a Upper Thames Street, London, E.C.4. Established 1875.

"A.A." STENCILATOR
"NIPPER" PRINTS 1,000 LETTERS FOR 1/-. 400 COPIES PER HOUR. Capacity 200 words, 5½ x 3½ in. 2/11. Postage 4d.
NEW "MAJOR" OCTAVO. Capacity 300 words, 7 x 4 in., paper up to 9 x 6 in. Complete with Bed, Paper, Stops, and device to ensure printing level with edge of paper. Strong, well finished. **10/6,** post paid.
A Real ADDRESSING MACHINE for 60/- DETAILS FREE
Lists many Garden and Household Gadgets, Free.
B., ADAMS-AIDS, 197a WHITEACRE RD., ASHTON-U-LYNE

OFFICE EQUIPMENT WANTED

Wanted.—Electrically driven Burroughs Adding Machine, 6-figure sterling. Full particulars to Rubery Owen & Co. Ltd., Darlaston.

APPOINTMENTS WANTED

Young Executive who so far has been able to apply his talents outstandingly in various spheres of the commercial world, with particular success on the Sales-Promotion side, seeks an outlet for tireless enthusiasm and determination. A tactful but good disciplinarian, accustomed to training, handling and directing the activities of salesmen.—Box 392, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

Inexperienced as yet but with an absolutely thorough and all-round knowledge of advertising, a young man aged 24 seeks opportunity to enter advertising office. Highly intelligent, excellently recommended, ten years' experience in accountancy and general business, really qualified now for advertising position—sound copy, effective layout, original ideas —just needs the start to prove his worth. Interested employers, please write.—Box 394, BUSINESS, Whitefriars House, Tallis St., E.C.4.

Your business or product may have NEWS value. Successful journalist-publicity man is willing to give spare time to manufacturing firm interested in promoting sales through editorial publicity.—Box 397, BUSINESS, Whitefriars House, Tallis St., E.C.4.

I am prepared to act in a free lance capacity as Advertising Manager for a concern whose appropriation does not warrant the services of a full-time man. —Box 396, BUSINESS, Whitefriars House, Tallis St., E.C.4.

A competent executive with eleven years' varied experience desires responsible post with progressive commercial concern; sound knowledge of management and marketing methods; Chartered Secretary, Certified Accountant. Write Box 401, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

Advertising and Sales Consultant can serve one or two non-competitive firms. Box 400, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

UNEX
LIMITED
15 HOLBORN VIADUCT, LONDON, E.C.1
Tel.: CITY 4093.
Rebuilt and Guaranteed
ADDRESSING Machines, Cabinets, Frames, Plates.
EMBOSSING.
OFFICE PRINTING Machines.
ACCOUNTING Machines
of leading makes at attractive prices.
MAINTENANCE, Overhauls, Repairs.
We BUY or EXCHANGE SURPLUS EQUIPMENT.

HE KNOCKS BUT ONCE!

● Opportunity is a timid fellow. When he does come to our door he knocks but once—and faintly at that. Therefore it behoves us ever to be on the watch for him—and the Classified Columns of BUSINESS form a really excellent place in which to keep such a watch. For the many small advertisements here contain amongst them a wealth of opportunity. All are worthy of your attention, for who knows—There may be something in this very issue of direct interest to *you*. So follow the lead of the knowledgeable ones by keeping a watchful eye on the Classified Pages of BUSINESS. Sooner or later you'll be glad you did!

SITUATIONS VACANT

Sales Manager's Assistant required for important high-class speciality organization. Expd. analysing and dealing with salesmen's reports, able produce vital facts and submit recommendations, ability handle correspondence selling staff on Sales Management policies essential. Permanent progressive post for right man, age 26/32. Salary £260/364 p.a. Apply LAURIE & CO., Employment Specialists, 28 Basinghall St., London, E.C.2. No preliminary fees.

MISCELLANEOUS

Cycle Storage Problem Simplified—"Parwinac" Cycle Racks take any number of cycles. Sturdily made in solid steel. Stand alone, back to back, or against wall as required. Sheds and Shelters also supplied. Wonderfully compact. Write to-day for list CYRS. 105, PARKER, WINDER & ACHURCH, LTD., 251 Broad Street, Birmingham, 1. London: 7 Great Marlborough Street, W.1.

GOODWOOD HOTEL
Conveniently situated for all places
From 3 gns. weekly. 10s. daily.
Bed and Breakfast 7s. 6d.
QUEENSBOROUGH TERR., HYDE PARK, W.2

The Proprietor of British Patent No. 324516, dated January 21, 1929, relating to "Improvements in Duplicating Machines", is desirous of entering into arrangements by way of a licence or otherwise on reasonable terms for the purpose of exploiting the above patent and ensuring its practical working in Great Britain.—Inquiries to B. Singer, Steger Building, Chicago, Illinois.

TIME RECORDERS

Time Recorders and Electric Clocks. We have new machines of all systems in stock; rebuilts at half price, fully guaranteed. Supplies, repairs.—Time Recorder Supply & Maintenance Co., 159 Grange Road, London, S.E.1.

Staff Time Checking and Job Costing Time Recorders (all makes) for quick cash sale, exceptional condition.—Write "Betarcol", Box 345, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

HOUSE MAGAZINES

A well edited interesting house magazine, profusely illustrated, is available at very low cost for one trader's sole advertising use in each district. Write on business letterheading for specimen and quotations. Arthur May, House Magazine Specialist, Nazeing, Waltham Cross.

CAR HIRE SERVICE

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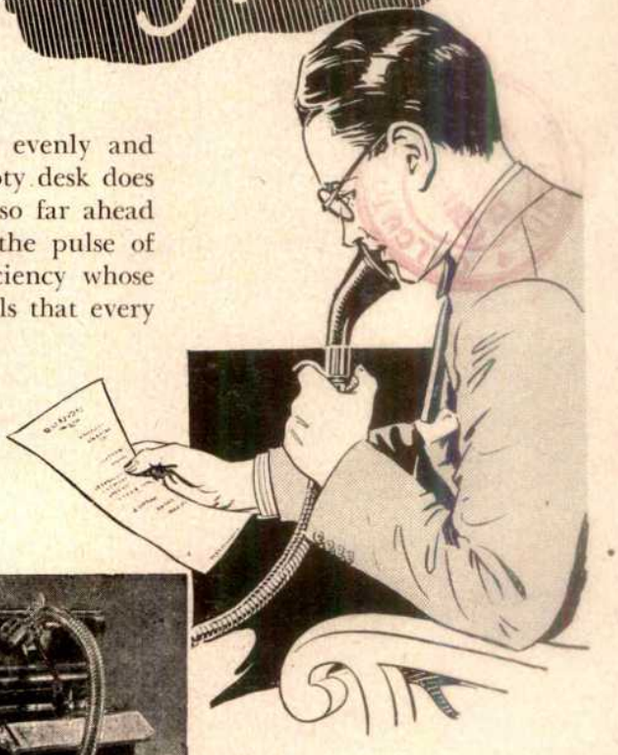

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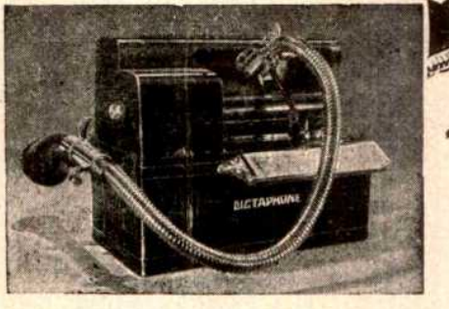
—*The Times*, 15/3/38.



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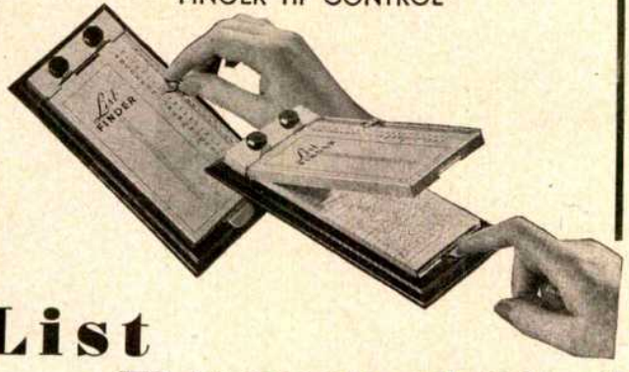

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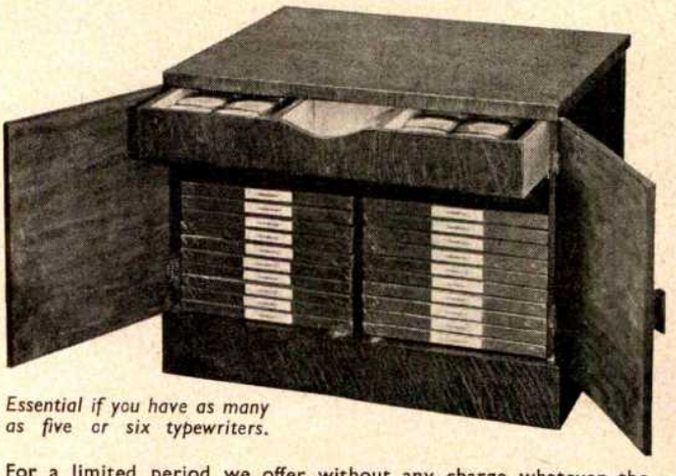

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VOL. LXVIII

BUSINESS

THE COMPLETE JOURNAL OF
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Incorporating "The Magazine of Commerce", "Modern Business", "System", "Business Organization and Management"

No. 8

AUGUST, 1938

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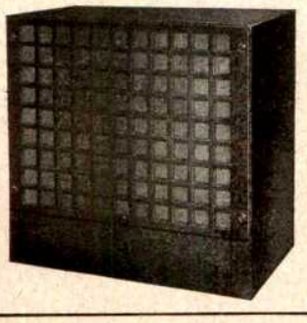

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This, I Think,

Is The Managing Director's Job

Says JOHN BEHARRELL

Managing Director: British Feeding Meals & Milk Products Ltd.
Managing Director: John Bee (Builders) Ltd.

"MEN are the Managing Director's primary responsibility. Men to fill the key executive posts and to constitute at all times a forcefully progressive but completely harmonious team. A Managing Director's effectiveness depends wholly on how he picks and handles his front-line team."

WHAT part should the managing director play in the running of a business?

I have not been able to find an exact answer that satisfies me. Perhaps there is no one answer. For business cannot be conducted by formula. The answers to most of the questions that matter in business cannot be found in books. The best we can hope to find in books is how someone else has successfully handled a similar problem. The experience of others is an invaluable aid to judgment—but it will not substitute for judgment. The open area where judgment must be used is still the most important area in business, and it is in that area—according to my notion—the managing director must work.

He must be the responsible head. If the company fails it is his fault. If it succeeds it is to his credit; but with these qualifications: a managing director, single-handed, can wreck a company, but he cannot, single-handed, make one a success. Therefore, although he cannot be allowed to dodge the whole responsibility for failure, he must share with his associates any credit for success.

What, then, is the real function of the managing director? The following are suggestions from my own experience—and my book of experience still has many blank pages.

Here are His Duties, No 1 and No. 2

The first duty of the managing director of a large concern is to select men actually to do the work. His second duty—although it is really a concurrent duty—is to see that these men do their work and that their work is so co-ordinated as to result in a successful business.

It is a misnomer to call the head of a large firm a chief executive. In a small firm the managing director has to be and do everything, but, as his firm grows, he cannot hope to be everything without impeding progress. If he tries, he will be so busy with details as to lose his perspective and, therefore, his judgment.

At the same time it has always seemed to me wrong for an executive, especially a managing director, to speak airily about delegating responsibility. There are many duties a managing director can delegate—there are some he cannot. He must pick men to handle the various sides of the business. But that is not delegation, unless he also shifts to them the final responsibility for their acts. Such responsibility he *cannot* shift.

He Cannot Hide Behind Committees

Neither can he shift to committees the responsibility for policies. Committee responsibility is a very poor substitute for individual responsibility. The committee has yet to be organized which will take other than the middle of the road, unless it is completely dominated by one man. If you ask some managing directors what they do for a living they will probably say:

"Let me tell you this in confidence. I do not do anything. My organization does it all. I just sit around here trying to look busy and important."

That is quite a conventional reply. It may be made out of pure modesty, or it may be one of those replies by which some men imply their greatness by gross under-statement; but it is never a true reply.

Organizations do not function of themselves. The managing director has to pick the organization. The less he interferes with it thereafter the better, but still it has to be his organization. Every successful business that I know depends ultimately upon the judgment of one man, who may or may not be the managing director but who is the actual head. He may fancy to have around

him committees and boards of managers, and he may cloak his authority and his judgment. Nevertheless, it is *his* judgment and authority that prevail. In other words, every successful company is a one-man company.

It should not be necessary for a managing director in a big business ever to give orders—if he has to give them it is a sign that he has not picked the right men for the key positions.

My conception of a managing director is that he should be the clearing house for ideas, and that he should be on such terms with the men around him who are actually doing the work that any difficulty in a department is an affair not merely of the head of that department but also of the head of the firm as well. Those are the principles that I have picked up in 25 years of business.

In our firm we do not care for formality in management, but we do have a close control of every branch of the business by a weekly check, usually on the Saturday morning of each week.

Contact With the Business Through These 5 Men

My direct contact with the business is mainly through five men—one in charge of manufacturing—including transport—a second in charge of distribution and sales promotion—a third in charge of engineering—and the Chemist who deals with all technical matters and research. The clerical force is in the hands of the secretary, who is directly responsible for all records, quite apart from the accounts.

Each of these men is supreme in his sphere, although they report to me, and I have records which check up the results of their departments. But more important than the records is the *personal* contact with the men. We all know each other very well—we have been together for years, and so close are all our relations that instead of concealing errors and reporting successes these men come in to talk over their troubles. They let their successes take care of themselves. They think too much of doing their jobs well to bother fishing for kind words.

The managing director, as the clearing house, is the man to take the troubles to, but it is not human nature for an executive, or anyone else, to report his failings to his superior officer. He must feel the managing director is his friend before he is his chief. Everyone likes to talk over troubles with friends—that is one of the advantages of having friends. And I believe that the success of our undertaking is due to a considerable extent to the fellowship and the friendliness which exists between every member of the staff—from the chairman downwards. Friendship and efficiency are the two passwords to real success.

Therefore, since it is the duty of the managing director to pick the executive in the first place, he has to make personal compatibility a primary requisite. That is one of the reasons why an organization of high-priced stars so seldom functions—each man insists on his own individuality, regardless of all the other individualities, and will not admit, much less discuss, his errors.

In every business the first requisite is the personnel of the organization. The first duty of a manager is to make good men out of such material as he may find available. The good works manager, the good distribution manager, the good engineer, is not necessarily at the far corner of the earth. He is ordinarily right within one's own organization and only needs the proper opportunity and direction to fill the bill. We do not expect to find wizards; but we do need men who are industrious, co-operative, seriously ambitious and possessed of as much brains as can be found in conjunction with these other qualities. Under a proper leader, time will do the rest.

Promotions are Made from Within Where Possible

We have no rule about not going outside the company for men to fill executive positions. Incidentally, we have few rules for our executives—in which we differ sharply from many concerns which like rules and often think in terms of rules. But we seldom do go outside our ranks to find men for the higher positions. A man is not always ready and waiting to fill any position which may be open, but one is always ready and waiting to be broken into a job.

When two men are equally qualified for a place we select the man who has been with us longest. But we do that from fairness and not from any thought of seniority. There is nothing of fairness about seniority. There are valid, sentimental reasons for keeping an old and faithful employee but no reasons at all for advancing him ahead of a younger man who has more ability.

Of course, I know many men throughout the organization other than the department heads. I make it my business to know them; I must look to them for future material. The employees of a company, and especially of a big company, ought to know who is their managing director, but all the departmental business comes to me through the head men. In theory, my door is open to any man in the company who wants to see me. I am ready to receive any complaint, but being on a frank basis with all the executives makes it unnecessary for any man to cover up his faults. Injustice usually springs from covering up faults.

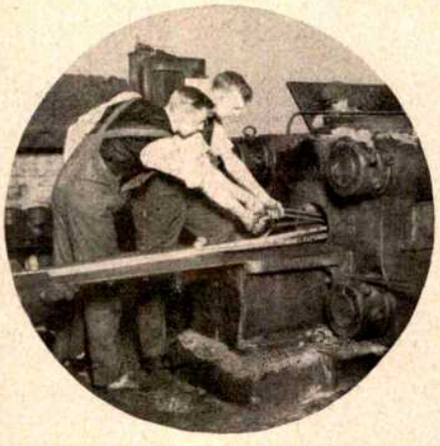
The managing director ought to know all that is going on in the business in such a way that, while he is not involved in the detail of daily transactions, he will be warned in ample time of anything going wrong and have the chance to dig into details. For business is essentially an affair of details well done. Just what figures give this warning is something for the individual himself to determine.

Takes Longer, but these New Employees Get a Better Start

"WHILE we know that to-day business needs more and more specialists, we do not like the young men who come to us to begin to specialize until they have been with the firm for two years."

So remarked a director of a well-known manufacturing concern to us last month. He was not speaking of factory labour, but of the types of young men who enter the firm with ultimate executive positions in their minds.

This firm has an excellent executive training scheme, but whether a newcomer joins with views that he wants a job in the publicity department, the general office or anywhere else, he is told that if he joins at all, it must be on the understanding that he belongs to the "temporary" staff for two years and that he works for a period in *every* department.



At the end of his two years' cycle each young man is called to a talk with the personnel manager and a senior director. The young man is asked to decide, out of his completed experience, which sphere of the business he wants to settle down in. On his decision being made, the head of that section is called in and the discussion then narrows down to specific terms.

Naturally there is a good deal of detail to be arranged: is there a vacancy at the moment; is it worth while making a special one, and so forth. But the main point is that by insisting on this two years' all-round experience the firm not only gets a far more satisfactory final decision from the young man as to what work he wants to do—and is best fitted for doing—but it gets the additional advantage that when the youngster does start at his chosen job, he does so with a really good *general* experience behind him of the firm's own particular methods.

Economics DO Play a Big Part in *Everyday Business*

E. F. BRAYHAM

Economist and Business Consultant, says . . .

The marketing policy is the factor in many of the older and moderate size businesses that is most frequently out of balance. Sales, he maintains, are not so scientifically planned as is production

TO make sure that at all times marketing activities are balanced with the production programme and possibilities; and that both production and marketing are on a scale which can be financed. That is one of the main responsibilities of management.

In many businesses, particularly those longer established and of moderate size, the department frequently out of balance is *Sales* (or marketing). Generally speaking, methods of marketing goods in this country have not been developed to the same efficiency as have those of production and administration.

Markets Too Often Selected Haphazard

In many small and moderate-size concerns, otherwise efficiently equipped, the sales policy consists solely of distribution made through channels established purely by chance or expediency. Their markets have been made either by nature (as in the need for food products) or they have been created by a more important manufacturer who has advertised his lines extensively (such as in patented, branded and luxury articles).

In economics this phase in marketing is known as "creation of demand". Manufactured products are not usually made in response to a known demand, but in anticipation of a future demand; therefore, demand does not precede supply, but usually follows it.

Take, for example, the electric safety razor. Its manufacturer did not market his device because of an existing demand, but having conceived its maximum utility he made this razor in anticipation of the potential demand, which in turn he has to create slowly by advertising.

Since the potential near-demand is limited, he is bound to sell it at a high price until the market is widened and other manufacturers step in with cheaper substitutes.

The next step a distributor has to appreciate is the scope of his immediate market for price fixing. If the market is limited and far from the factory, his price must be high. If the market be temporary or seasonal, similarly his price must be high so that idle machinery be compensated for in off-seasons. This is where budgetary control comes in.

Sometimes a manufacturer will take great pains to work out his costs, but in his enthusiasm for cost-cutting and greater production he may sink too much capital in fixed assets. The result is that when he comes face to face with a depression he may also have to face insolvency.

Keep An Eye On This Vital Factor

Every manufacturer using machinery should have an ultimate eye to using his fixed plant for alternative products. He must be in a position to effect his changes with the least possible delay and expense. Fashions change, habits change, and, still more important, business conditions governed by politico-economic events also change.

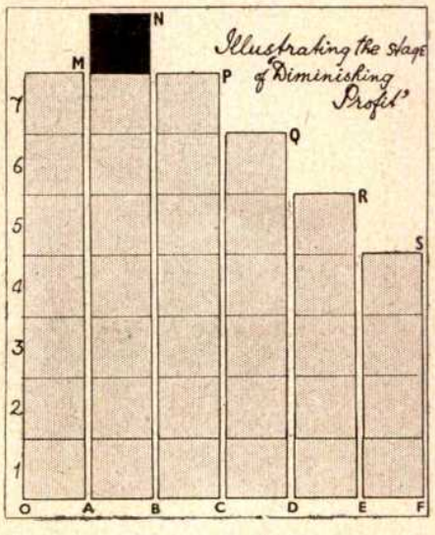
Distributors also make a habit of constantly revising their costs with a view to effecting economies, and often an organization's prevalent policy may have to be changed to widen its scope.

Manner of distributing one's goods is an important factor to success. Whether it be direct, through a wholesaler or retailer; whether the trade should be direct with the public, or through markets overseas, it must be *planned* for.

Most manufacturers and traders have their own association to safeguard their interests and to impart information upon their respective interests by pooling their common knowledge.

In this thought a very important law of economics plays its part, namely, "horizontal combination". It is merely a method of describing that "the tendency towards the amalgamation of like units supplying the same market is due mainly to the opportunity which it offers of giving full effect to the economies of specialization and standardization".

This in practice means that a firm extends its control merely to meet its growth. Being successful as a competitive unit, its share of orders increases beyond the capacity of its establishment, and rather than increase its own output (in fear of a slack period ahead) it decides to acquire some one or two of its competitors. Although further economies are not the primary motives that govern this policy, it may discover economies that are possible.



Rectangle OM represents effort by one workman, given the machinery at this command. AN shows the effort of two, MN representing the additional output. BP, CQ, DR and ES show respectively when the third, fourth, fifth and sixth workmen are added. This is where diminishing returns operate. While more men are working, the profit of their efforts decrease since, the machinery being limited, output cannot increase without additional expenditure. Hence it is not commendable

Market Locations that May Save Overhead Costs

Moreover, and this is important, it may be that the amalgamation(s) would prove to be nearer the market(s), thus enlarging itself as a competitive unit and effecting at the same time a substantial saving of overhead, freight and other charges.

As long as coal was the motive power of all plants, the heavier industries and their satellites had perforce to remain in the coal-producing counties. But as oil became more generally adaptable to changing machinery, then manufacturers considered it a wise policy to move nearer to the big markets and/or to amalgamate with competitors around London so that turnover could be widened and essential overheads reduced.

At this stage a still more vital factor

of economics comes into play: the "law of increasing returns". Stated simply: when an increase in the supply of a commodity (or product) is accompanied by a fall in the cost per unit, the law of increasing returns is said to operate. On the other hand, should the increased return necessitate larger overhead, then it attains the stage of *diminishing profit* and therefore is not commendable. The diagram of a hypothetical case illustrates this.

Working this out with figures, it means that a manufacturer, given a set of machinery and one workman, can make 7 units of profits; but when he adds on another workman he is inclined to increase his profit by exercising that little margin left in his plant. Should he be so foolish as to add further workers indiscriminately, hoping greedily for further profits, he will find that his profits begin to diminish as more men are taken on.

The primary function of business is to make profits so all manufacturers endeavour to increase output where they can in order to increase the profit on the turnover. But where a manufacturer, having a set of machinery, can increase his output by additional workers, but without bringing in more machinery or replanning his output, it would be found that he is increasing his returns by that margin which his plant is capable of. If, however, in order to increase turnover, the manufacturer has to bring in new labour, machinery and, above all, replan his mode of output by, say, extreme specialization, then surely he will find at the end of his financial year that he has been heading for diminishing returns.

This 'Background' Knowledge Is Invaluable

Economic forces are so interwoven in business that it is impossible to isolate the theory from practice. Generally, a practical man in business applies the theories of economics without knowing that he is doing so, but where he has knowledge and background of certain economic applications, then he is so much ahead of his contemporary who lacks these.

It is important, too, for the business man to have some understanding of the elements that govern the theory of prices. In simple words, what are the fundamentals that determine the final selling price of any article?

A manufacturer's selling price must include three elements: (*a*) the cost of manufacture; (*b*) the cost of distribution; (*c*) desired profits.

After all direct and indirect manufacturing and distributing costs have been met there must be, in addition, a net profit sufficient to recompense the manufacturer for the risk he had taken in engaging in the business, and to return an adequate interest greater than normal on the invested capital.

These elements of costs and profits will depend upon the policy adopted fixing the type, quality and style of the product to be manufactured, upon the correlated price-level policy, whether the goods are seasonal in character, and lastly its greatest ultimate capacity.

Now, a manufacturer who enters a non-competitive market with a highly-paid-for patented article of short life or short circulation has to fix his profit on capital high, but in an already established and highly competitive market he is bound to establish one of the following three price-level policies: (*a*) selling and pricing at market minus level; (*b*) selling and pricing at market level; (*c*) selling and pricing at market plus.

A **market minus price** policy is based on theory that large sections of the market desire above everything else a certain product at a low price, since consumption is at a high level. This is where bulk sales add up to small profits.

A **market level price** policy, the commonest method in usage, assumes the general market price of a commodity to be relatively fixed, and involves lowering or raising prices in accord with the market. This policy represents to the manufacturer two methods of increasing sales. He may either reduce overheads to increase profits or he may attempt to differentiate his product by "preference" technique *via* the advertising and distinctive packing routes.

A **market plus price level** policy is worked upon the idea that the product is superior and can break away from cheaper competitors. Improvements must be introduced to justify an increased subjective valuation by the ultimate consumer who would be inclined to pay a higher price for its exclusivity.

Canteen, with dance floor, has replaced tea-can and paper-bag food in the works

Working Comfort=Better Work

TO-DAY the factor of employee-comfort claims a high share of consideration in the design of modern factories. Last month we watched a new works being completed for a mass-production furniture firm.

The director who showed us round insisted that the factory had, in fact, been designed for the employee. True, every efficiency device possible had been incorporated, but the primary consideration had been efficiency *through comfort and convenience.*

There are still many business men who do not yet realize what a close tie-up there is between staff-comfort and efficiency of work.

Wood Flooring Warmer

For example, in this all-concrete factory the floors have an overlay of wood. This serves a double purpose: Not only does it serve to raise the floor flush with an internal "railway" track (much less expensive than "building-up" with concrete), but it is far more comfortable for the workers' feet, warmer and "softer" to walk on. Being of wood blocks, it is easily repaired.

Purer Air For Paint Booths

In the special booths for paint-spraying the usual air-suction ducts are provided, but in this factory the director has had two extra suction-outlets incorporated in each booth: one level with the worker's head, another near the floor.

The object is to keep the air near the operator's face as pure as possible and to provide an additional draw-off for the heavier fumes that gravitate downwards.

Lavatories—1st Class Standard

Lavatories and washing facilities, quite irrespective of Factory Act requirements, have been made to "first-class" standard and not of the "steerage" type so long thought to be good enough for workmen.

"A small thing, perhaps," commented the director, "but it has a good effect on the men's minds. We do not want them to feel that anything here is 'mucky'."

Non-Dazzle Windows

Windows run round three sides of the factory but are of diffusing glass and placed higher up than usual. The result is more effective lighting, as bright light from outside does not fall so directly on operators' eyes.

Food Where It's Healthy

A well-fitted canteen is on the ground floor. There is a 15-minute break in the morning and 10 minutes in the afternoon. Insanitary "tea cans" and food wrapped in paper and brought into the departments are done away with. Special suction plant keeps the canteen air free from paint fumes, sawdust, etc.

No Lifting Heavy Loads

Throughout the factory all raw material, and everything else that can be, is kept on low-loading platforms. Lifting and carrying is done by electric trucks. Any worker seen carrying a heavy load is challenged by the foreman.

Women workers are occupied as much

as possible on the lower floors to save their climbing stairs.

Lights Under Individual Control

The factory as a whole is well lit with a modern system of lighting, but an interesting additional point is that at most of the benches and machines the operators are provided with a directional local lighting unit as well.

Each of these units hangs on a counterbalanced pendant from the roof so that each workman can raise or lower his light and switch it on or off at will.

This optional lighting is a great advantage, as it meets the varying needs of the work with a minimum consumption of current. For example, whereas men working on dark wood may need their local light, those working on very light-coloured wood may not. Individual control avoids the necessity of putting on all the lights in such circumstances.

MANAGEMENT *Notes of The Month . . .*

By The EDITORS

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Half These Staff Changes Are Avoidable

MANY attempts have been made, without much success, to calculate the actual cost of labour turnover. But that in firms where a high labour turnover exists it is beyond question that the cost is great.

This loss is made up as follows:

(1) Cost to the employment department in advertising or other means to secure applicants, testing or interviewing them, expenses of following up, etc.; (2) Cost of using skilled workers to train newcomers; (3) Reduced output of new workers compared to that of skilled workers during the whole of the learning period. (This means that more workers have to be employed than if all were experienced); (4) Mistakes made by new workers causing: (*a*) accidents; (*b*) spoilt work or machinery, and (*c*) antagonizing of customers, etc.; (5) Disturbance of social groupings within the firm which has a serious psychological effect on output.

Furthermore, a firm that has a high labour turnover often acquires a poor reputation in the district so that only a low level of applicant applies there for work—high labour turnover thereby causing a vicious circle.

AN investigation was recently made by the National Institute of Industrial Psychology into the extent and nature of labour turnover in London. The survey covered 54,257 employees in a wide variety of firms. The findings revealed that *fifty-four per cent of the men and boys leaving their jobs resigned for reasons that could have been avoided by managements.* Only twenty-five per cent were dismissed as unsatisfactory.

Among women forty-two per cent resigned for avoidable reasons.

Such figures throw a significant light on management policies and methods. They are in fact a serious charge against management and they amply confirm the statement constantly emphasized in this paper that, more than ever to-day, the main responsibility of management lies in the proper relationship with *personnel,* not with the detached control of machinery or the dictation of mere system.

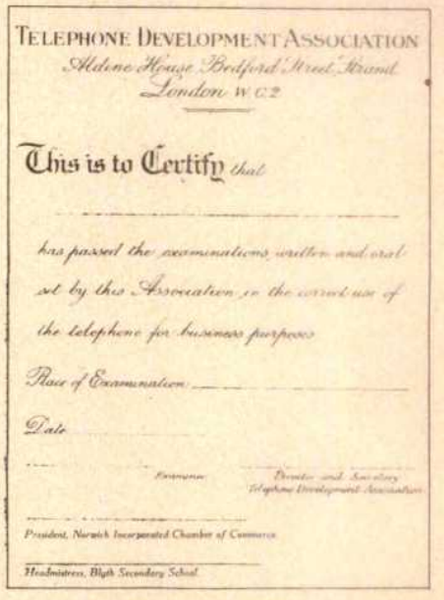
The full report of this investigation will be found in the summer issue of *Occupational Psychology,* published by the National Institute of Industrial Psychology, Aldwych House, London, W.C.2. The price is 5s. to non-members. The issue also contains the results of several other interesting surveys that will appeal to executives who study scientific management.

An *ORGANISED* Desk

Left: As the individual machine is to the factory, so is the desk to the office—a work centre. It must be organised to permit efficient, smooth-flowing output. That is the object of this desk, latest ***Airline*** secretarial model by Art Metal Construction Co. The small knob near the top of the drawer tier is attached to a shallow drawer specially fitted for pins, clips, pencils, etc. Remaining drawers are fitted out for individual needs

Business Wants This Telephone Proficiency

MOST employers realize the vital importance of having an efficient operator on the telephone switchboard. In the course of business countless callers make their first acquaintance with firms *via* the P.B.X. operator. On her handling of these initial calls may depend the gain—or the loss—of many a big transaction.



TELEPHONE DEVELOPMENT ASSOCIATION
Aldine House, Bedford Street, Strand
London, W.C.2

This is to Certify that

_____

has passed the examinations, written and oral, set by this Association, in the correct use of the telephone for business purposes

Place of Examination _____

Date _____

_____ Examiner _____ Director and Secretary, Telephone Development Association

_____ President, Norwich Incorporated Chamber of Commerce

_____ Headmistress, High Secondary School

The Post Office provides training for business switchboard operators, but the T.D.A. is doing vitally important work in phone-training departmental employees. This diploma of proficiency is being welcomed by employers

No firm, of course, need have an inefficient P.B.X. operator. Thorough training in this work is provided free by the Post Office.

Until lately, however, no proper training was available for departmental clerks and others whose skill and intelligence on the telephone is just as important a factor in cementing a firm's goodwill with callers.

THE Telephone Development Association is fast removing this lack. By means of lectures in schools and at business firms throughout the country special training in the use of the phone

is being given. In some centres this training is followed by a written and a practical examination, with qualification for a diploma.

BEFORE deciding to issue a diploma the T.D.A. naturally wanted to know if this award for telephone proficiency would be assessed at its real value by employers in business. Through chambers of Commerce throughout the country members were therefore asked if they would give preference, other things being equal, to candidates for employment who held the Association's diploma. The great majority replied that they would. Telephone proficiency is vitally needed in business. The T.D.A. is doing good work for Management.

●

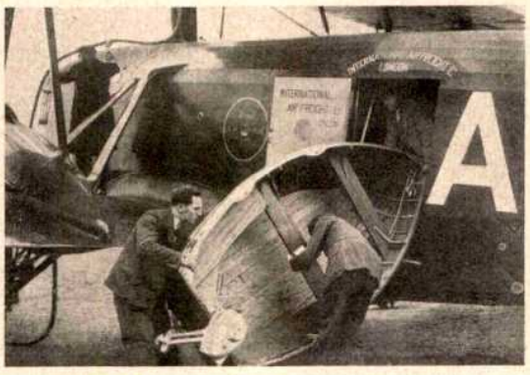
Goods by Air: Double Saving

FREIGHT by 'plane is an economy more and more used by business firms. The saving is a double one. Time is cut to a fraction compared with surface methods, and packing is reduced to a minimum. Actual carriage charges are 5½d. per kilo (2.2 lb.) and insurance 1s. 6d. per £100.

International Air Freight, Ltd. (120 Pall Mall, S.W.1) the only British air line running all freight and formed less than a year ago is working to capacity, carrying such varied cargoes as pianos, bricks, textiles, livestock, flowers, fruit, valuable pictures, engineering parts, etc. They operate daily between Croydon and Brussels and Amsterdam. Brussels is reached in 1¾ hours, Amsterdam in 2 hours.

The time-saving is of course a factor the business man can appreciate, but the saving in packing is a very real economy. Even for fragile goods (glass, etc.) and for heavy stuff (machinery) none of the heavy protective packing essential for surface transport is needed for air carriage. Thus not only is there a big saving in actual packing materials but freight charges are slashed substantially.

IMPORTANT to business men, too, is the arrangement existing between International Air Freight Ltd., and the leading travel agencies and hotels for the carriage of air passengers' heavy luggage. The executive travelling by passenger plane can thus arrange for his heavy luggage to follow him immediately instead of having to wait anything from a day to a week for his trunks to follow by train, boat and road.



Even a dinghy with outboard motor goes easily aboard the freight plane. This one was flown to Antwerp to a yachtsman (Mr. H. Bradford of Bromley, Kent) who lost his original dinghy in a storm. The carrying capacity of 'International's' freight planes is 2 tons (700 cubic feet)

THE coming importance of freight by air is indicated by the recent formation of an air transport section by the London Baltic Exchange. It operates like the shipping section whereby air freight operators are provided with facilities for handling cargoes for all industries.

Camouflage and Smoke To Beat Bombers

SAND-BAGGING your premises, building dug-outs, parading in gas masks and becoming proficient in fire drill are by no means the only things the business man must keep his mind on in connection with A.R.P. plans.

A few weeks ago Wing-Commander E. J. Hodsoll, C.B., Inspector General of A.R.P., speaking to Sheffield industrialists, raised the important factor of camouflage. Possible air-raids will not, of course, be confined to night time. The camouflage of buildings—especially of such conspicuous things as gas holders—therefore becomes of vital importance. Yet one rarely hears the point discussed. All the talk, and the action—if any, seems confined to precautions against actual hits by bombs.

Obviously it is equally important to do something about trying to prevent your premises from standing out like the bull's eye of a target.

AS Wing-Commander Hodsoll says, a bomber at even 15,000 feet (and the altitude will probably be nearer 25,000) and travelling at something approaching 300 miles an hour, must drop his bomb 5 miles in front of the objective he wants to hit. If, therefore, you can make your premises hard to define you are naturally going to increase by a tremendous extent the possibility of error for hostile bombers; every fraction of a second's indecision on the part of the marksman through inability to get a clear sight will throw him out by 500 yards or more.

Wing-Commander Hodsoll has a special department working on this [redacted] of camouflage.

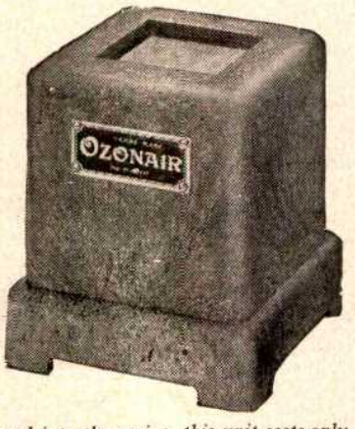
This Office Air-Re-charger Lessens Staff Fatigue

IT is not always possible to put into offices or works installations of air-conditioning proper, yet, in offices especially, it is quite easy and inexpensive to install a small apparatus that is highly effective in combating that stuffiness in the atmosphere which so often militates against health and good work at this time of year.

Electric fans give a temporary feeling of coolness, but they do not actually "improve" the air in an office or other building.

Ozone, on the other hand, does recondition the atmosphere and is, in fact, a very desirable thing in itself as a constituent of air-to-breathe.

The small portable units shown here (made by Ozonair, Ltd., of Longmoore Street, London, S.W.1) is literally an atmosphere recharger, banishing that heavy stuffiness and replacing it with invigorating ozone diffusion. Under these conditions a high incidence in the staff fatigue curve is avoided.



Plugged into the mains, this unit costs only 1d. per 200 hours to operate. NO regenerating or other periodic adjustment is needed. It can also be supplied surmounted by an electric fan for better distribution of the re-charged air

In winter, when windows are closed and heating apparatus tends to produce a "fug", the apparatus is just as effective in re-charging the air without it being necessary to permit draughts.

Accidents Cut 25 per cent

AN investigation carried out by Dr. A. Percival Jones, Industrial Welfare Officer of Paton & Baldwin's, Ltd., South Wales iron and tin-plate works, revealed that 48 per cent of accidents were due to the personal and human factor; of this, 19 per cent were due to inexperience and awkwardness. In another steel works which BUSINESS visited last month we were told that the appointment of a special anti-accident squad had reduced *bad* casualties by over 25 per cent.

This Plan Aims to

Build Sales by Giving Every Dealer *Better Control of His Own Business*

By F. T. POULTON

From An Interview With

THE CHIEF ACCOUNTANT

of a Well Known Motor Car Manufacturing Concern

HOW far should manufacturers assist dealers in the more efficient conduct of their retail businesses? It is not easy even to attempt an answer to this question. A good way, perhaps, to avoid committing one's self would be to take shelter behind the compromise: It depends on the type of business in which the manufacturer and his dealers are engaged.

On the other hand, it would be safe to say that the manufacturer stands to gain by giving his dealers all the organized help that constructively fits in with the average dealer's own needs and his mental capacity to employ such help successfully.

Dealers' Efficiency is Key to Turnover Speed

Recently, in a special article, we showed that a famous radio manufacturer carried his dealer-aid policy so far as to reconstruct the entire retail premises of any dealer who was not equipped on the lines considered by the manufacturer as adapted to modern progressive selling.

Speaking generally, the manufacturer realizes that the speed of his turnover is governed largely by the speed of his dealers' individual business and that the reputation of his products is governed to an almost equal extent by the way in which the dealers transact business with their individual customers. The manufacturer must plan his dealer-aid campaigns and service with these basic points in mind.

The latest dealer-aid development of a well known motor car manufacturing concern, in the light of these fundamental factors, therefore, seems a highly developed and very logical service. This service is, in short, the provision, for every appointed dealer, of a modern and standardized system of accountancy.

Now the accounting or book-keeping section is generally the most intimate and personal side of a retailer's business. It might be, though, that this was the last department into which a dealer would wish his supplier to intrude. But, on the other hand, most dealers (except perhaps the large ones in the great towns and cities), if they are frank, would admit that the book-keeping and accounting system is usually the weakest and least understood section of their businesses.

Thus, while it might be considered that this concern took a bold step when they decided to extend their influence into the dealers' holy of holies, the company had in their favour the fact that the majority of properly minded dealers would realize that it was here that skilled assistance was really wanted most of all. It was up to the company to make the right approach in order to get the scheme accepted in the mutually helpful spirit in which it was offered.

To explain how the system was evolved and made so exactly fitted for the individual dealer's use I must go back a little way.

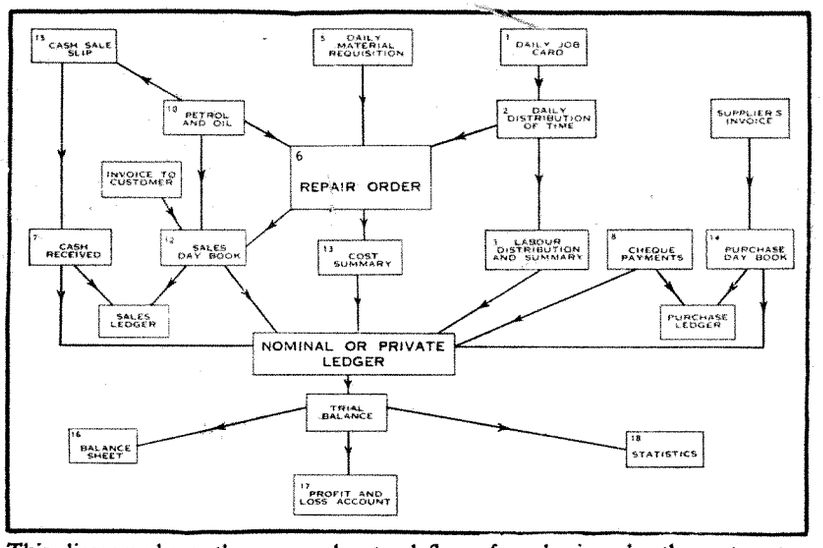
Here Dealers' Difficulties are Discovered And Solved

Three years ago this manufacturing concern started an experimental dealer station of their own. Here they planned to run things precisely as an average progressive dealer runs them: Sales, repairs, servicing, retailing of parts and accessories, etc. Here they planned to prove at first hand all the dealer's experiences, and particularly his difficulties. On to every problem they brought to bear the skill and experience of a great organization and planned all the time to smooth out difficulties and to produce a smooth-running routine, profitable alike to the dealer and the dealer's customers and enhancing the value and reputation of the cars in the hands of users.

The thing most particularly watched in this experimental station was the running of the book-keeping system. In fact, it was one of the main aims of the station to produce an easily worked system that would, literally, give the dealer a really exact and *visual* up-to-the-minute control of his business.

Old systems of book-keeping do not control businesses: they merely record past history and do not, until many months have elapsed and auditors have completed their post-mortems, reveal any technical errors in the conduct of the business that have led the proprietor into losing money.

Errors found in this way are long past rectification. The losses have been incurred; but, what is worse, the circumstances have probably been forgotten, so here is no guarantee, should similar circumstances arise again, that the dealer will not unknowingly repeat the same costly errors.



This diagram shows the easy and natural flow of work given by the system to the Nominal or Private Ledger. The dealer is invited to use exactly this system or to compare his own forms already in use so that he can eliminate any duplication or any redundant forms which his old methods may involve. The arrangement shown here makes it easy for him to draw up a monthly Profit and Loss Account

Giving Each Dealer 'Finger-Tip' Control

The company's plan, therefore, was to put up to the dealers a financial accounting and stores and stock control system that, while reduced to the most

simple terms possible, was based on the most modern principles and provided the dealer with a complete profit-and-loss account at the end of each month.

This article is in no way a dissertation on business finance: it is an article dealing with a manufacturer's dealer-aid policy; so we will not go deeply into the technical routine of how the system works. It will be sufficient to say that, as a service provided by the manufacturer, it gives the dealer a chance of scrapping unhelpful business records and of installing in their place a system of visual, up-to-the-minute checks that enables him to see at any time exactly how his business stands and precisely in what direction it is headed.

A Special Advisory Service Supplemented The Plan

Having drawn up this practical business-building control system—I emphasize that word *practical* because it is the keynote of the plan—the Company's next step was to offer it to the dealers in a way that would at once get their confidence as well as merely show them its advantages.

Several channels were used for its propagation. As many dealers as possible were invited to come to a conference at which the system itself and the business-building plan behind it were fully demonstrated.

A series of fully explanatory illustrated articles was published in the company's service bulletin that is mailed monthly to all dealers. And a complete text-book on the plan was specially drawn up and issued.

To back up all this initial preparation and to consolidate the idea throughout the country the company has created a new staff executive post: that of Business Management Representative.

From the head offices a highly qualified man has been appointed to fill this post. His sole job is that of travelling consultant to the dealers. He has nothing to do with selling anything to the dealers except, of course, to sell them on the idea of improving their own businesses. His aim is to introduce the new accounting system and to start it working for any dealer who has not been able to install it; to put any finishing touches that may be needed to the plan where the dealer himself has adopted it, to advise on any point of stock, stores, personnel or other control where the dealer may need help. He is, in actual fact, the dealer's business adviser.

It should be explained here, I think, that dealers are in no way coerced into using the accountancy plan. Many dealers, it was pointed out to me, already have modern, highly efficient control systems of their own. The plan has been worked out solely as an advantageous service for those dealers who could not otherwise enjoy the benefits of such an up-to-date business aid.

Now we come to the question: In what ways will this dealer service help the company?

Taking the effect in its widest sense, the company will first of all secure the general benefit of many thousands of its retail outlets being stepped up to a higher level of efficiency.

This benefit is in itself basically one of the most desirable for which any manufacturer could plan, for increased efficiency spread over the whole system of retail distribution means at once an increase in the speed of movement of the whole business, a lowering of the general overhead costs of distribution and an increase in all-round satisfaction alike among the many dealers concerned and the still easily greater number of customers subsequently served.

Here are 3 Main Advantages of The Plan

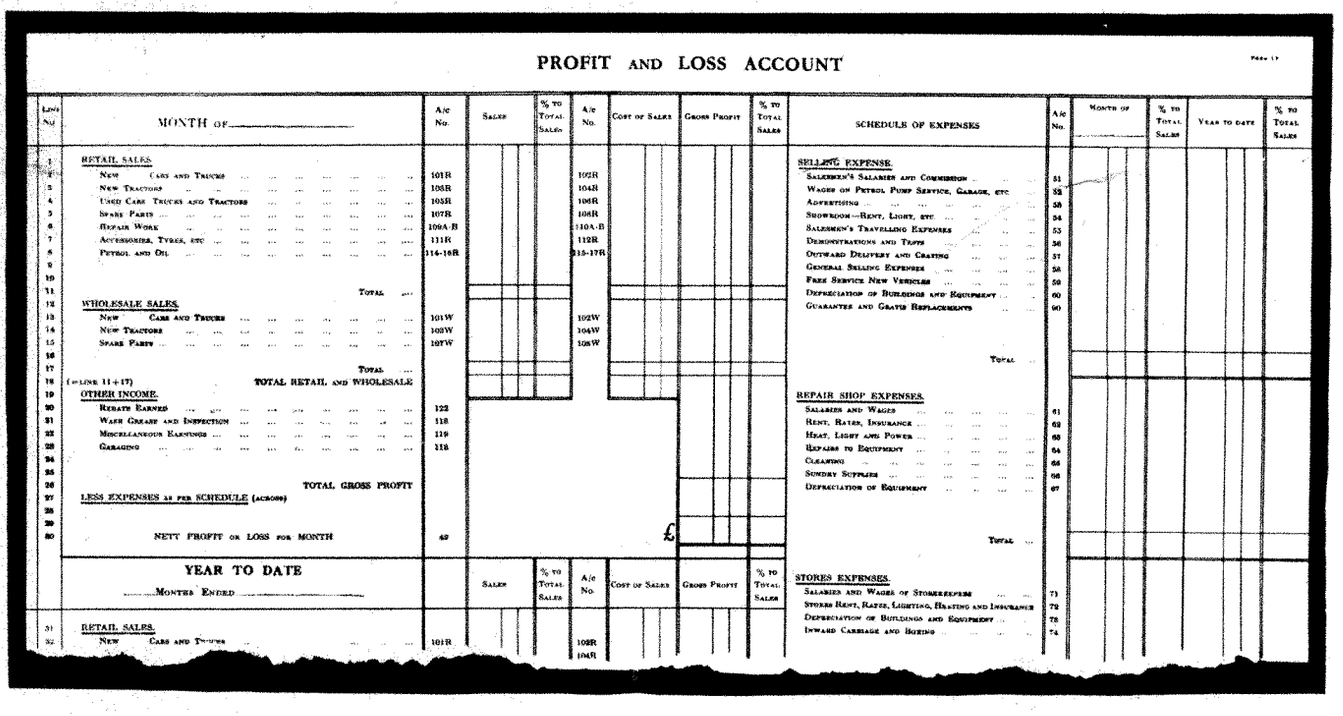
But, to get down to a little more detail, the benefits of the plan can be outlined thus:

1. The close-up visual control of his finance and organization will enable every dealer to see, step by step, what

(*Continued on page* 23)

Next Month's

issue of BUSINESS will contain a detailed survey of the latest '*Administrative Equipment for the Factory, Sales and General Office.*' This will be a valuable, comprehensive guide to have on hand during the whole year. It puts before you—in A.B.C. order—the most modern aids for every department of your business



PROFIT AND LOSS ACCOUNT

Line No. | MONTH OF _____ | A/c No. | SALES | % TO TOTAL SALES | A/c No. | COST OF SALES | GROSS PROFIT | % TO TOTAL SALES | SCHEDULE OF EXPENSES | A/c No. | MONTH OF | % TO TOTAL SALES | YEAR TO DATE | % TO TOTAL SALES

RETAIL SALES
1 New Cars and Trucks ... 101R 102R
2 New Tractors ... 103R 104R
3 Used Cars Trucks and Tractors ... 105R 106R
4 Spare Parts ... 107R 108R
5 Repair Work ... 109A-B 110A-B
6 Accessories, Tyres, etc ... 111R 112R
7 Petrol and Oil ... 114-16R 115-17R
8
9
10 Total ...

WHOLESALE SALES
11 New Cars and Trucks ... 101W 102W
12 New Tractors ... 103W 104W
13 Spare Parts ... 107W 108W
14
15 Total ...
16 (=line 11+17) TOTAL RETAIL AND WHOLESALE

OTHER INCOME
17 Rebate Earned ... 122
18 Wash Grease and Inspection ... 118
19 Miscellaneous Earnings ... 119
20 Garaging ... 118
21
22 TOTAL GROSS PROFIT
23 LESS EXPENSES as per SCHEDULE (across)
24
25 NETT PROFIT or LOSS for MONTH 49 £

SELLING EXPENSE
Salesmen's Salaries and Commission ... 51
Wages on Petrol Pump Service, Garage, etc ... 52
Advertising ... 53
Showroom—Rent, Light, etc ... 54
Salesmen's Travelling Expenses ... 55
Demonstrations and Trips ... 56
Outward Delivery and Crating ... 57
General Selling Expenses ... 58
Free Service New Vehicles ... 59
Depreciation of Buildings and Equipment ... 60
Guarantee and Grants Replacements ... 60
Total ...

REPAIR SHOP EXPENSES
Salaries and Wages ... 61
Rent, Rates, Insurance ... 62
Heat, Light and Power ... 63
Repairs to Equipment ... 64
Cleaning ... 65
Sundry Supplies ... 66
Depreciation of Equipment ... 67
Total ...

STORES EXPENSES
Salaries and Wages of Storekeepers ... 73
Stores Rent, Rates, Lighting, Heating and Insurance 75
Depreciation of Buildings and Equipment ... 76
Inward Carriage and Buying ... 74

YEAR TO DATE
Months Ended _____

RETAIL SALES
New Cars and Trucks ... 101R 102R 104R

Dealers are provided with these printed forms on which it is a simple matter to draw up a standardized Profit and Loss Account each month. Apart from the great advantage to the dealer of having such a frequent and accurate check on the movements of his business, the centralized pool of information which their return to Head Office gives the Company is a still further mutual benefit, as we show in this article

IDEAS that are *Building Up Sales*

Can You Give Your Containers a Double Purpose?

PACKAGING products in containers which have a specific usefulness themselves has been a successful policy with several manufacturers recently. A firm making soup cubes, for example, use a composition ash-tray as a container, an innovation which has stimulated sales.

Many food manufacturing firms, of course, have found it pays them to sell their products in jars, bottles, bowls, etc., that can be used on the family table after the original contents have been consumed.

Ideas along this line are worth considering, especially to-day when the production of cheap mouldings widens the manufacturers' choice of containers and packages for their products.

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Service Scheme Boosts Mfr's and Dealers' Sales

SALES have been increased by a camera manufacturing firm which organized a "camera tune-up" service through its dealers. The scheme was simple. Dealers' customers merely brought in their cameras for a check over and clean-up.

The manufacturing company supplied dealers with counter and window displays, folders, wrappers, etc., and an inspection chart. This chart listed 11 points on which the ordinary standard type camera should be checked.

Dealers' sales in films and camera accessories have been increased in some instances by over 15 per cent. The producing company's sales have gone up by more than 6 per cent.

•

Give Sales Force Say In Advertising

IT is astounding how many manufacturers segregate their advertising and their sales force.

In the course of conversation the other day, a quite big and well-known manufacturer confessed that his salesmen resented his advertising, particularly direct mail, because they felt it would deprive them of the credit for sales.

Quite obviously this manufacturer must follow the trend, which is daily becoming more apparent, of planning advertising campaigns from the point of view of the sales force. If sales managers and salesmen are allowed to think that they have a controlling influence in the form and direction of the advertising they will make more use of it, and be more willing to provide facts from the field on which advertising can be more intelligently based. Some manufacturers are going so far to-day as to form an advisory council, including representatives of the factory, the sales force, wholesalers and retailers, to discuss advertising policy and method.

•

He's Creating A New Market

AN overall manufacturer in the north of England is going for a new market this year: men and women who are spending holidays in caravans and camps. He considers that growth of trailer-caravan popularity and increase in the number of campers (especially since the "Keep Fit" policy was introduced) give him a chance to create a new market. Almost certainly he can sell useful and attractive overalls to women, an outfit they can wear while doing the "messy" work (cooking, cleaning up, etc.) yet still retain feminine appeal.

The scheme is another good example of a manufacturer seizing an opportunity to create a new market.

This Pack Has Triple Sales Appeal

There are three important sales points about this talc pack marketed by Boots:

1. It suggests a specific and seasonal use for talc and therefore tends to make plus *sales to people who might otherwise overlook this useful commodity.*

2. As its label and general style identifies it as a general bathroom product and not something purely for women, extra sales have been made to a far greater number of men than would ordinarily have purchased such an article.

3. The container is especially slim and slips easily into luggage, it thus also appeals strongly on a point of convenience.

The whole plan behind this pack is therefore an excellent example of intelligent presentation.

The attractive design in colour was provided by Boots' own designers and the containers are being made by The Metal Box Co., Ltd.

•

Could YOU Add a New Sales Point?

ONE more example: the successful effect of adding a further point of appeal to the product. Not all summer days in England are bright and sunny. On the dull days women wear darker clothes. A manufacturer of ornamental leather belts has cashed in on this circumstance by producing an attractive range of "reversible" belts—one side bright coloured, the other side dark. Almost too simple, but his sales are up 50 per cent.

•

New Surveys to 10 Important Markets

NOW that test campaigns in marketing schemes are proved and accepted a collection of key facts and figures about specific localities forms material of importance to manufacturers. That is a reason why the ten booklets, entitled "Marketing Facts and Figures", just published by Northcliffe Newspapers Group, Ltd., are worth having. Incidentally, they are available free of charge.

In Stoke-on-Trent, Derby, Leicester, Bristol, Swansea, Cheltenham, Gloucester, Hull, Grimsby and Lincoln the Northcliffe company publishes one or more newspapers. One of the objects of the booklets is to show the strength of the newspaper circulations in the areas concerned. Of as much importance to the manufacturer, however, is the broad picture of market conditions given in each booklet. All key statistics are published. For example, such figures as population, number of families, number of retail outlets, rateable value, number of persons in employment, consumption of electricity, gas, etc., number of wireless licences, telephone subscribers, private and commercial motor-cars, births, deaths and marriages, etc., are quoted.

Pictorial method of presenting these facts is used, and in many instances an analysis of the figures is given. A case in point is population. Besides giving numbers of males and females, persons 14 years and under, you are also told the number of elementary and secondary school pupils and given an occupational analysis of the adult population.

A broadsheet is published with the booklets. This collates the most important statistics and shows you briefly the state of prosperity in each district.

If you are making area try-outs in any of the ten centres for which booklets are published you would certainly find the set a useful source of information and would eliminate the cost of much research.

Safe Transit for *Express Delivery Loads*

'BUSINESS' Special Road Test No. 8 . . . *The New BEDFORD 5-6 Cwt. Vau*

Bad going in the Merstham sand-pit thoroughly tests the torsion-bar suspension, basis of safer fast travel for fragile goods

WHILE the business operator has a wide selection of vans well suited for express deliveries of light loads the use of vehicles in this class may—in certain circumstances—involve risk of damage to fragile goods. This fact appears to indicate an increasing demand for something rather better than the normal light van suspension arrangements.

In this connection the distinct advance upon the conventional springing system adopted by Vauxhall Motors, Ltd., for their new Bedford 5/6-cwt. van will interest many of our readers, as should the following report of an exacting road test carried out with a fully-laden example of this attractive trade vehicle.

Although there is nothing entirely new about the torsion-bar suspension system adopted for the new Bedford van—it having proved its value on the famous Vauxhall passenger cars—the

By

RICHARD TWELVETREES

A.M.I.Mech.E.

application of the idea to commercial vehicles is certainly an innovation which should ensure complete immunity from the risk of breakages in delivering goods in areas where road surfaces are poor.

Quite apart from that, the new Bedford suspension makes for much easier riding on ordinary roads, with corresponding economy in tyres, fuel consumption and general maintenance costs.

On this occasion the test procedure started with a run to my favourite "truck proving ground" at the Merstham sand-pit where the Bedford van was put through its paces at varying speeds over workings where motor-driven dumpers are used to convey sand from the pit-face to the contractors' lorries.

New Torsion-Bar Suspension Is The Secret

What actually happened under the fore-part of the vehicle does not concern us at the moment, we are more interested in what torsion-bar suspension will do than of what it consists.

My observations, therefore, were confined to experiences in the cab and although the surface inequalities produced the maximum rise, fall, oscillation and twist of both front and rear axles, the van maintained a remarkably even keel all the time.

Some idea of the surface conditions may be gathered from the photograph and when traversing such ground the driver may expect some inconvenience by having his head bumped against the cab roof, while what may happen to the load is entirely a matter of surmise.

The smoothing action of the Bedford suspension, however, made the rough journey quite easy for the driver and though the test weights were placed loosely in the van, no movement occurred in spite of the atrocious surface of the pit.

As a matter of fact Vauxhall engineers submit the independent front wheel torsion-bar suspension to far more critical tests on the bumping machine installed in the Engineering Research Building at the Luton Works; but possibly the van's performance as described above may be more convincing for the practical trade operator.

Next in order of importance to the capacity of this model for delivering fragile goods safely over rough roads comes the question of petrol economy, which was checked carefully after we had regained the roadway.

Three separate runs were taken to check the mileage obtained from one quart of No. 3 Commercial petrol and from these the average of 35.2 m.p.g. was produced. The check was taken

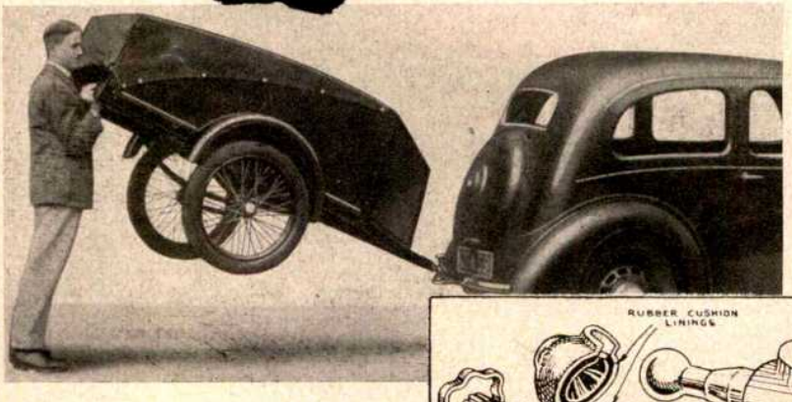
(*Continued on page* 24)

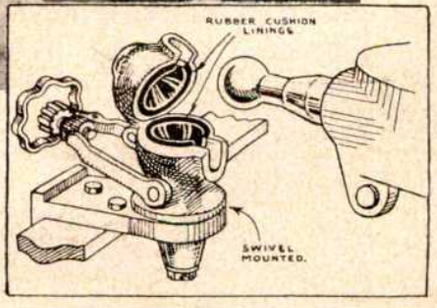
The Trailer Provides a Commercial Vehicle at No Extra Cost

THE trailer is a very economical form of transport. For holiday luggage the type of trailer shown here is used by many business men. But in business, too, the trailer exactly fills many important needs. Behind a private car it gives you a commercial vehicle without extra expense. The model shown in the illustration is of course for light loads, anything up to 4 cwt. The manufacturers, B. Dixon-Bate, of Bridge Works, Chester, however specialize in a wide range of types up to 20 cwt. capacity and include body work from the open utility truck type to horse-boxes and covered vans.

All these D-B trailers comply fully with the Road Traffic Regulations. And it should be remembered that no extra tax or licence is required when they are towed by private cars.

An important mechanical feature is the coupling, shown in the drawing. It is a "flexible," quick-acting rubber-lined joint which, while providing positive security, gives wide articulation, as the

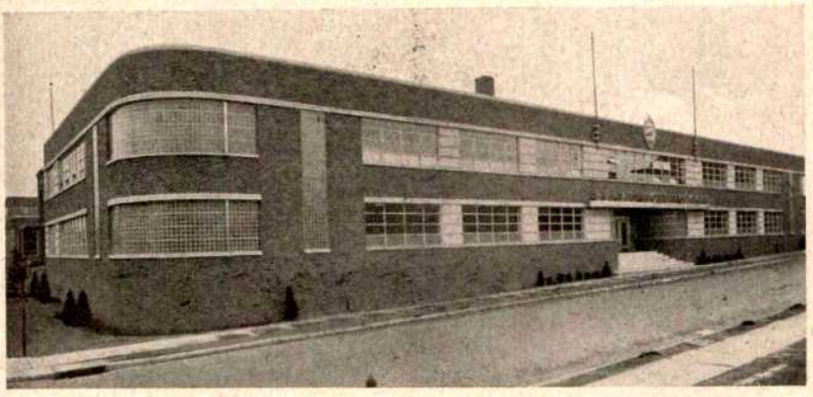




picture indicates. This, with the automatic Servo brakes (on the heavier models) keep the trailer in perfect control at all speeds.

The standard equipment provided with D-B models includes the number-plate and an unbreakable rubber tail-lamp with cable.

The SAVINGS in Overhead Costs Will PAY FOR This New Office



Sound-proofing, Air-conditioning, Maximum Natural and Artificial Lighting and Most Modern Internal Equipment for saving Time, Fatigue and Tempers are the Basic Features

THIS new glass and brick, air-conditioned, sound-proofed, scientifically lighted office, fitted throughout with new equipment was opened recently by the Standard Register Company, United States concern which manufactures the self-aligning, marginally punched continuous stationery well known in this country under the name of "Alacra" and sold exclusively here by W. H. Smith & Son, of Bridge House, Lambeth, S.E.1.

Details of an American office were selected for inclusion in this issue because of the unusually high standard of physical *conditions*, as distinct from *equipment*, which are incorporated in a concern of not more than medium size. Furthermore, we feel it is useful sometimes to show what other people are doing in the way of office planning and equipment.

We are indebted to the directors of the Standard Register Co. and to our friends on the Editorial staff of *American Business* for the details and illustrations published here.

Noise Absorption and Lighting: Two Vital Factors

The absorption of noise by scientific sound-proofing throughout the place and the provision, by air-conditioning, of an ideal working temperature (and relative humidity) irrespective of weather conditions, are two vitally important factors that are making for a higher standard of work and a lowered fatigue curve.

Next comes natural lighting. Notice the extensive use of glass bricks which, with their diffusing quality, give the offices almost "open sky" illumination.

In the basement of this building is an assembly hall (96 by 48 feet) seating 500 people. It is equipped with a 20-ft. stage, stage-lighting and scenery. There is also a cinema projection room, kitchen, cafeteria, display room and fireproof record vault.

On the first floor there is a separate sound-proofed office each for correspondence transcribers, billers and typists and the teletypists.

The second floor contains four oak-panelled executive offices complete with private lavatories and built-in showers.

In the centre of this floor is the general office with 25 ft. ceiling and glass brick walls and partitions. The glass brick partitions are set on steel channel bases which provide raceways for the electrical conduits. This special base, together with hollow door jambs, permits concealment of wiring which would otherwise have been rendered too visible by such extensive use of glass bricks.

In fitting out the office steel desks, organized for each individual, were selected. Aluminium posture chairs are provided all round.

The artificial lighting is a scientific combination of filament and mercury vapour lamps. It is almost impossible to tell the difference between the intensity and the colour of the natural and the artificial lighting.

In the transcribing office are six operators and a supervisor. Transcription is done from Dictaphone cylinders *via* Electromatic typewriters. Using the positive, self-aligning continuous letter-heads, with pre-inserted carbons, output up to 25 per cent in excess of normal is the average standard.

The fine flood of daylight entering through the extensive use of glass bricks is a feature of the general office. Note particularly the second array of glass bricks immediately below the ceiling; this adds tremendously to the total amount of daylight entering, yet few firms utilise these upper parts of walls for admitting free light. With all new steel desks and filing equipment, aluminium posture chairs are provided for everybody

One of the Dictaphone transcribers on correspondence work using the special feed equipment for continuous letter-heads. Punched holes for automatic positive-alignment feed can be seen along the margins of the forms. The transcribers work in a sound-proofed room

Order Dept. Stops Headaches Before They Begin

Everything possible is done to make routine work easy and simple — for the saving of time and elimination of errors. Here is a little conference to determine the best method of filling an order

AS every sales executive knows, a salesman may write Jensen on the order, and Jenson on the customer's copy or layout. And he may write—"same as last order" in some vital point where exact specifications are needed. He has, in a complicated business like Standard's, a thousand different chances to make a mistake.

At Standard all these potential headaches and opportunities for error are checked and rechecked and caught in the order department.

Special forms called Lettergrams are dispatched to salesmen when additional specifications are needed. These forms are made out in sets of an original and four copies. The salesman fills in and returns the original and retains the first copy for his record file. The triplicate stays in the order department filed with the order being held. The quadruplicate goes to the regional manager, and the quintuplicate is filed in the order department in the agent's or salesman's file maintained there.

Recording Inquiries

WITH inquiries sent salesmen by the advertising department, a form is attached to be filled out within five days. This form is for the purpose of reporting the call on the prospect. If no report is received the salesman is sent a series of three follow-ups, the last of which indicates that if no report is returned, an attempt will be made to close the order by mail.

Commission Corrections

WHENEVER a salesman's order is subjected to corrections which mean a change in commission, a form is made out by the auditor to notify the accounting department of this change. Use of this form simplifies keeping commission payments accurate and prevents oversights in changing commission amounts when prices are changed, or when charge-backs are necessary. This not only simplifies the making of commission statements but provides a ready reference record in case a salesman questions the amount of his commissions.

Keeping Track Of Old Customers

THE customer-record department keeps a record, alphabetic, by county, of every Standard Customer. All orders are checked against this record. In the visible index files there is a card for each customer, with a record of his purchases, so devised that a signal shows when the salesman should follow up for repeat business. In each pocket of this index is a card which is mailed to the salesman 60 days before the customer's supply will be exhausted. Salesmen are required to report on these cards the results of calls.

Branch Office Communications: A system of schedules for teletype connections between branches and head office (Dayton, Ohio) saves the Standard Register Co. a good deal of expense in charges. Every morning at 10 o'clock Dayton calls Philadelphia, then New York at 10.30 and Chicago at 11. In the afternoon Philadelphia calls Dayton at 2.30, New York at 3 and Chicago at 3.30. Communications are compressed as far as possible into these periods

Courtesy to Visitors: At the information desk in Standard's spacious reception room is an electric register on which the visitor fills his name, firm, and the man he wishes to see. The receptionist takes the written record and acts on it promptly. The carbon copy of the form is punched to fit the visitor's coat button and serves as his pass through the offices or the factory

The order department prices all orders, figures commissions, and watches for special jobs which require the attention of the cost department. These specials are flagged with a form which brings them to the special attention of the cost department to determine whether more of such business is wanted. This department also prepares the specifications and orders for the manufacturing and production divisions.

There is also a record of all "dead" customers. When a customer stops using Standard registers a special report is prepared and sent not only to the salesman, but to the district and management executives.

Every order clears through this department before it is sent to the production department. All orders are acknowledged to customers and the salesmen by this department.

EVERY PHASE of Accounting Activity

EVERY TYPE of Posting Equipment

is covered by the **COPE-CHAT Service**

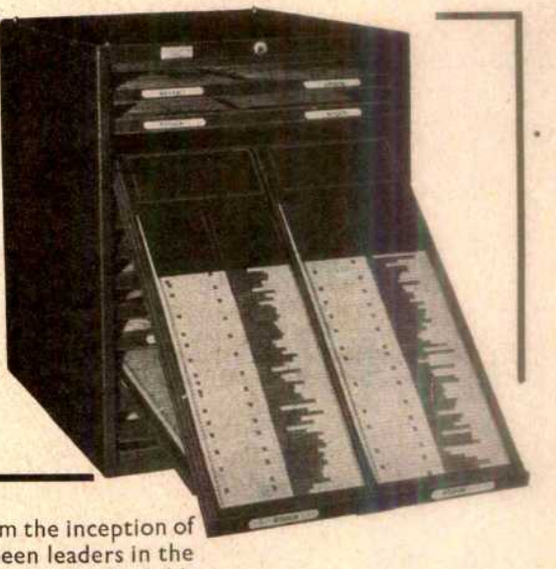
Pioneers in the evolution of methods and equipment, **Cope-Chat** were the original patentees of the first effective Loose-Leaf Binder.

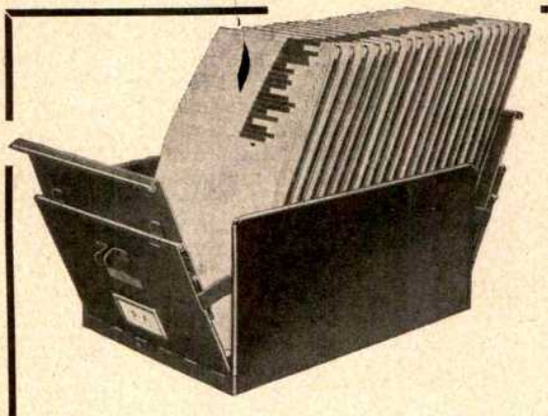
During nearly half a century they have created a wonderful range of high grade Loose-Leaf Binders for all purposes in Thong, Post and Spring types. Many original Ledgers in active use to-day testify to quality, design and workmanship.

All sizes of Ledgers are available in a full range of Bindings.

Management Control has for many years been a constant study with the result that to-day the Cope-Chat range of Visible Record equipment covers every requirement of the Executive who wishes to exercise complete control, with an absolute minimum of valuable time, while clerical labour is reduced to a minimum.

Card sizes vary from 2¾ in. wide x 1½ in. deep to 16½ in. wide x 12 in. deep. Single or double cards with over-riding sheets can be used in a series of Book Units and Cabinets with a capacity of from 50 to 4,200 records.





Cope-Chat right from the inception of Mechanisation have been leaders in the Machine Accounting equipment field.

Believing that no single type of equipment will meet all needs the Cope-Chat range includes several types of Machine Posting Binder ; a variety of trays—including the well-known Maybee Adjustable High Speed Posting tray ; and the Speedrail Posting Unit which gives ideal posting and fire protection for thousands of accounts actually at the machine.

Years of co-operation with the Machine Companies—plus the comprehensive range of equipment—place Cope-Chat in the best possible position to carry out machine equipment installations.

IF YOU HAVE A PROBLEM, OR ARE CONSIDERING ANY DEVELOPMENT, LET COPE-CHAT HELP YOU. FULL SERVICE BY SPECIALISTS IS AVAILABLE THROUGHOUT THE COUNTRY AND DETAILS WILL GLADLY BE SENT BY RETURN POST WITHOUT OBLIGATION, ON REQUEST

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EXCHANGE HOUSE, OLD CHANGE, LONDON, E.C.4

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Branches throughout the Provinces

BUSINESS EQUIPMENT REVIEW

From A Letter-Heading to a Catalogue *at 40–60 per cent Saving in Costs*

THE substantial savings made through the use of office printing machines is one of the outstanding features of the past decade in business, yet there are still many firms which have not taken advantage of this development. And this, despite the fact that the machines usually cut printing bill costs by 40 to 60 per cent, turn out jobs of comparable quality to that of normal printer's work and almost eliminate the time-lag between "order placed" and "order delivered".

An interesting and significant factor not fully appreciated is that even very small firms can make successful use of office printing machines. Operating costs are low, a junior can turn out quality work, and a machine takes up no more room than does a typewriter and stand.

There are several good makes of machines on the market. One of them, the Rotaprint, I inspected last month. Without the aid of type, blocks, brasses, segments, stencils, etc., the machine prints in one or more colours all kinds of publicity and other matter. You can, for example, use it for printing letter-headings, statements, invoices, ruled forms, graphs, labels, plans, circular letters (hand and typewritten), price lists, folders, booklets, leaflets and so on.

The Printing Medium is Easy To Handle

The printing process used is offset litho. A wafer-thin aluminium sheet is the basis of production. The sheet, in the same way as an ordinary sheet of paper, is typed upon. If sketches or drawings are to be printed, they are drawn on the sheet. Even fine photographs are reproduced by this process. And a few minutes after the subject matter is imposed the sheet is ready for fastening to the machine and production can start.

This is the important 'Service Work' factory described in the text. Here 250 skilled technicians are employed preparing a wide variety of master sheets for use on Rotaprints. Output averages 10,000 master sheets per month

All earlier models have now been superseded by the two 1938 fully automatic Rotaprints. The new *Standard Model*, which prints on surfaces up to 14 in. by 9 in., has these automatic features: damping, inking, paper feed, cut-out and drive. Production speed is 4,000 copies an hour.

This is The Model For Big Jobs

The big machine: the *New Super Model*, prints on surfaces up to 20 in. by 14 in. Its automatic features include: suction feed, damping, inking, cut-out, side lay, joggers, Vernier adjustment to head and tail lay, drive and "hair-line" register. Production speed is 5,200 copies per hour.

Now these machines have a good reputation behind them and that is one reason why the Rotaprint company has created a record sales of machines, process and supplies for the year ended March 31, 1938. The record is proof of the value of goodwill and recommendations by customers.

As Mr. G. Thompson, general sales manager for Kaye's Rotaprint Ltd., said: "A tremendous amount of our business to-day is achieved much more easily than during the very early years of Rotaprint because customers broadcast the results they obtain through use of our machines. The effect is like that of a pebble in a pond—the ripples go on extending far and wide and it is difficult to know where they end."

One of the strong points about the firm is the service they give their customers. During the ten years they have been established they have been building up this service, and now they have a new process factory at Hendon. Here a staff of 250 skilled technicians carry out all kinds of process work for customers.

This is an important service for many reasons. For instance, it is not worth while for an ordinary firm using one or two Rotaprints to carry out all the various process work. The reproduction of photographs is a good example. The use of typeset matter is another. Artists' drawings and sketches is a third. The more wide and varied the range of work you do on your machine, the more valuable this service becomes.

The factory covers an area of over 30,000 sq. ft., and all its departments contribute to the service for customers. The photographic studio, for example, is equipped with more than £2,000 worth of cameras and is capable of carrying out any kind of photographic work you might want done. The Typesetting Department has a Monotype machine with two keyboards and all the latest faces of type. This forms a library of type for up-to-date publicity. When you send in a job that calls for use of type faces you can be sure that the type is clean and sharp—in perfect condition—

This illustration of a Rotaprint in use in a small office is the complete answer to those executives who say "Yes, we should like to print our own stuff, *but it is too much trouble; or we haven't any room.*" As can be seen the machine occupies no more space than a typewriter on a stand. And as for trouble, to print in the office is much the easiest way of all—while into the bargain you enjoy a a substantial cash saving and incomparably quicker service

75 POINTS that Make for *Successful Management*

Gathered during interviews with the top executives of more than 50 progressive firms in many different industries

1. When engaging staff avoid highly temperamental people. They clash.

o

2. A safe way to choose your man is on two counts:
   (a) Is he a fine man?
   (b) Has he fine ability?
   If you cannot say "yes" to (a), do not give him the job; do not let a high qualification under (b) outweigh this.

o

3. Choose your man in relation to the people he will have to work with. Ask yourself, will he fit in with the man alongside of him? Will he fit in with our customers?

o

4. For work which requires quick effort, choose men who are quick. You can never make a slow thinker quick.

o

5. Go carefully into the health side of the man you would employ. Is he sanely fond of exercise and does he pursue it regularly? This is especially important if you are taking him young. You want him to be with you for a long time. Your big profit will come when the man has reached an age five years beyond that on which you engage him.

o

6. If you know the man you are about to employ to be a genius, examine meticulously his past record. If he was uncomfortable and broke up another's organization, he will very likely be uncomfortable with you and disturb your organization.

o

7. Avoid, if you possibly can, bringing in a world beater who is going to show your boys how it ought to be done. He seldom succeeds, but if he does, it is invariably at the expense of that organization spirit which it may have taken you years to generate.

o

8. Train all your men, in the main, the same way over a period of years. This does not mean necessarily making them of the same mould, but it does mean giving them all the same fundamentals to build up on.

o

9. Make sure, by study and analysis, that the heads of your departments have a complete grasp and picture of the working of their departments and are able to impart it to others.

o

10. When the time comes to consider increases of salary or promotions, do not act on "hunches", but upon a clean-cut basis of evaluation of effort.

o

11. Be careful in meeting competitive bidding for your people. Any man who is any good will have, during his development, offers more or less alluring. His action under the circumstances will show his calibre. Let him make the decision. It will do no good to meet the offer if it is wholly and obviously out of line with what you are paying.

o

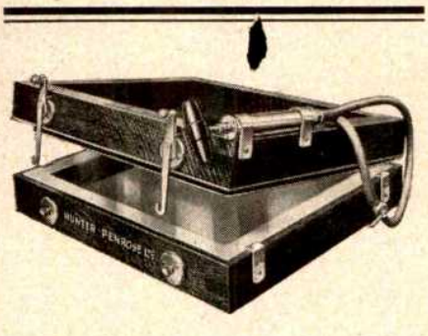
12. Step lightly when for one reason or another you feel you ought to supervise an employee's life outside the office.

These notes will be continued in succeeding issues. It is suggested that each instalment be clipped out and filed until the whole 75 Points have been accumulated. The complete collection will be found to crystallize the main points in the whole range of management as practised by successful firms.—Ed.

MAKE YOUR OWN PLATES

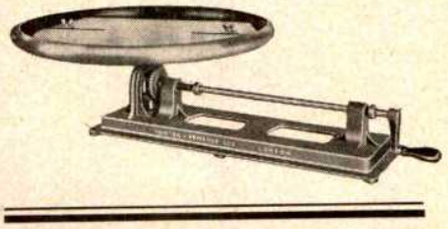
for Offset Duplicating Machines with

HUNTER-PENROSE EQUIPMENT



Wood model Vacuum Printing Frame. Ensures perfect contact between film, paper or glass negatives and the sensitized plate. Several other models available. Sizes: 16 × 13″, 21 × 17″

Hand operated Bench Whirler for coating metal plates with light sensitive solution. Flat plate support. Strong plate clamps. Automatic disengagement of gears to ensure smooth running. Sizes: 16 × 14″, 21 × 17″, 25 × 21″



12 or 15 amp. Enclosed Arc Lamp fitted with side reflector. Can be supplied to operate on any power supply

All accessories and chemicals can be supplied from stock. We invite your technical enquiries regarding operation of the above or any reproduction apparatus

HUNTER-PENROSE LTD.
109 FARRINGDON ROAD • LONDON EC1
Phone: TERminus 1661

Is your Direct-Mail giving you the returns you are entitled to expect?

ARE YOU CONFIDENT that your Sales Literature brings the percentage of replies which it should?

DO YOU FEEL that when a prospect receives your promotion matter it stands for consideration—distinct from the barrage of advertising and sales literature which bombards him every day?

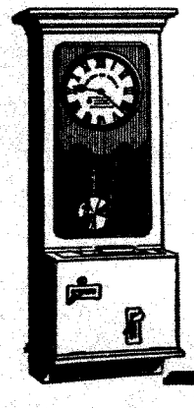
THERE IS A METHOD by which you can be assured that your direct-mail will not only arouse the recipient's interest but also enable you to take full advantage of that situation to the point of prompt reaction.

THIS IS A SIMPLE PATENTED LETTER-HEADING-CUM-FOLDER. Its ingenious design is such that the folder is not revealed until the letter is in the reader's hand. It incorporates also a detachable reply or order form.

MANY LARGE BUSINESS ORGANISATIONS have proved that this "Letter-cum-folder" does procure a high percentage of replies. Maybe you also will find this plan advantageous to your business.

LET US SEND YOU, without obligation, a specimen of this letter-folder. It will tell you how, through the use of this plan, your returns from Direct-Mail sales publicity may be substantially increased.

DRYDENS Ltd.
BRENT CRESCENT, NORTH CIRCULAR ROAD, LONDON, N.W.10
Telephone: Willesden 2883-4-5



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by eliminating wasted minutes, which put up overheads and rob you of profit. The 'G.B.' System encourages efficiency by its fairness and impartiality—it is the chosen system of leading firms and corporations throughout the country.

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GLEDHILL BROOK
TIME RECORDERS LTD.
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a quality which has a big effect on the finished work.

The Artists' Department employs 20 artists, each of whom is a specialist in some style or technique. One man, for example, may specialize in drawing of animals, another in women's fashions, a third in architectural design and so on. Thus your job gets the attention of a man who is particularly suited to undertake the work.

Other departments include the Copper Plate and Stone Department, the Photo-mechanical Department—which transfers subjects by photo-litho to master sheets, the aluminium sheets you use for reproduction purposes—and Mechanical, Binding, Perforating, Punching and Stapling Departments, and other incidental services necessary to produce print. Binding, Perforating, Punching, and Stapling are, for instance, kinds of work which no firm of ordinary size would undertake. Only those companies which have really big office printing departments find it worth while to set up this kind of service for themselves.

Customers in any part of Britain can get quick and efficient service from this Hendon plant. It is indicative of the value of the service that nearly 10,000 plates per month are prepared in the various departments. Whether you own one machine or a score, you get the same standard of service. This means that the small user is never at a disadvantage as compared with the big firm.

'Average Sale' Vitally Influences *Turnover*

THE following figures, approximated to round numbers, represent the yearly business of a well-known provincial department store:

Traffic (responsible persons entering), 9,000,000.

Transactions (individual sales made), 5,000,000.

Value of Average Sale, 3s. 9d.

However one seeks to explain away these figures, the bald facts are these:

1. Four million people visiting that store during the year were not sufficiently impressed by its merchandise presentation to buy anything.

It is true that in many instances two or more people were in one party and that only one of them was the *buyer*. But it is also true that every other member of each party had needs to satisfy and a certain amount of money in their pockets to spend.

2. If one in every twenty of that four million non-buyers could have been induced—by more effective sales presentation—to make purchases equivalent to the present average sale, the aggregate turnover would have been increased by £37,500.

Does anyone doubt that in a store of this size the variety of merchandise was such that, given really effective presentation, one in twenty of the non-buying visitors would have recognized that it

could satisfy one of their conscious desires and taken action accordingly?

3. If the value of the average sale could have been increased by *one farthing*, even on the present volume of transactions, the turnover would have increased by £5,208. If the average sale could have been increased by *sixpence* the aggregate turnover would have gone up by approximately £125,000.

People can usually find a little more money for something they really want. Many a housewife, going out with a shopping list and planning to spend a known amount, unexpectedly meets a friend and has a cup of tea or coffee with her: or sees an itinerant flower-vendor on the kerbstone and spends sixpence on a bunch of flowers. Good luck to her—but it rather disposes of the idea that her "average sale" could not be built up by a penny or two if she could be made to want your merchandise as much as she wants her chat or her flowers.

The important thing to note is that these factors, while particularly striking when considered in relation to the business of a great store, are just as vital to the success of the smallest retailer. Considered together, they make up a "yardstick" by which the sales promotional effectiveness of every retail establishment can be measured.—*Masseeley Users' Magazine.*

Why Women are Getting Men's Jobs

WHILE commenting favourably on increased activity in the new industrial estates on the North-East Coast, some sections of the financial Press last month deplored the predominant employment of women instead of men in many of the new businesses—even in the engineering trades—which have opened up there.

When we were last through that area we saw three hundred women acetylene-welding tanks and testing the tanks. Asked why women were employed on that sort of work, the management simply replied: "We find women more satisfactory; they do a neater job and are not nearly so susceptible to politics as are the men."

So there it is: two apparently proved advantages that the managements of manufacturing concerns will not readily forgo.

THE progressive simplification of manufacturing processes and vastly improved lifting, handling and general labour-saving equipment are factors that are rapidly making suitable for women more and more jobs that were formerly the monopolies of men. The increasing use of women, therefore, is an economic change that no factor of sentiment can withstand.

Builds Sales By Dealer Control

(*Continued from page* 14)

each phase of his business means to him from a profit and loss point of view. He will be able to plan his buying, stocks, sales, repairs, servicing, second-hand car dealing, and so on, so that he can build a predetermined economical profit as he goes along.

2. The vast amount of careful work done at the company's retail experimental station has smoothed out a mass of discrepancies relating to such things as labour and service charges.

Straightens Out The Difficult Question Of Charges

For example, at the station it may have been determined that 20s. is the most equitable charge to make for a certain job. But half a dozen different dealers may, from their own experiences, show that for such work they would have to charge as many different prices. The company would then be able to demonstrate by its own practical work how it is that these dealers are at fault in their methods of working and costing. The company would show exactly the improved routine to be followed so as to make 20s. a standardized, yet fully profitable, charge for the work.

Multiply this example by many hundreds of similar cases, and it is easy to see how the general flow of work can be more widely standardized and at the

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same time carry a certain and predetermined profit. And the very first to react favourably to such standardization of charges are the dealers' customers, the car users. Thus the initial step towards an enormously improved customer-goodwill movement is started, and this favourable factor moves continuously, through the dealers, back to the company.

3. By getting dealers to return their new monthly balance sheets to the company the experts at head office can, by reviewing the whole, take out a detailed analysis from which quota figures can be compiled and sent back to the dealers.

A little thought will show the tremendous advantage of this. Without any identities being revealed each dealer thus gets the benefit of seeing the pooled results of thousands of separate businesses similar to his own.

He can check and compare his own individual figures, department by department, against a mass of others.

He may find he is behind standard with his used-car sales or his accessory sales. Here is a stimulus for him. If he cannot himself at once discover a way to increase this side of his business he can call in the company's Business Consultant.

Again, you can multiply this by dozens of possible cases. The value of such a system acting over the whole of the company's retail outlets thus becomes obvious.

In conclusion, therefore, it can be said that this new dealer-aid service has tremendous potentialities for future business building; it is a striking example of what a manufacturer can, with proper planning, do to increase the all-round benefits to himself, his dealers and the whole range of final customers.

Safe Transit For Express Deliveries

(*Continued from* page 16)

on non-stop runs, but the result indicates the measure of economy to be expected under actual conditions involving numerous stops-and-restarts per mile.

The latter kind of work, as we all

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know, calls for many other qualities besides fuel economy, such as acceleration and brake efficiency, to which our attention was next directed.

To give the clutch a specially good chance of proving its efficiency and durability the Bedford van was started from rest on *direct drive*, and on getting away with very little help from controlled clutch slip, reached 30 m.p.h. in 15 seconds. For sheer acceleration under such difficult conditions this new van is amazing; the 10 h.p. engine develops a genuine 35½ b.h.p.

Of the three forward speeds top and second are synchromesh so there is no difficulty in operating the gears when starting from rest in the ordinary way, when 30 m.p.h. can be reached in 9 seconds. At low crankshaft speeds the overhead valve four-cylinder engine exerts an extremely useful pull which, applied to top gear acceleration from 10 to 30 m.p.h. produced the excellent figure of 13 seconds.

Brake Tests Reveal First Class Results

A van capable of such acceleration must be equipped with specially good brakes, a point about which the Bedford designers have been very particular. At 30 m.p.h. on wet tarmac, the hydraulically operated brakes brought the van to rest in 2 seconds, and in 4 seconds by actuating the mechanical hand brake intended primarily for parking.

For the satisfaction of readers who prefer records of brake performance by the decelerometer method I used a Tapley Brake Meter, as well as the Performance Meter on this test.

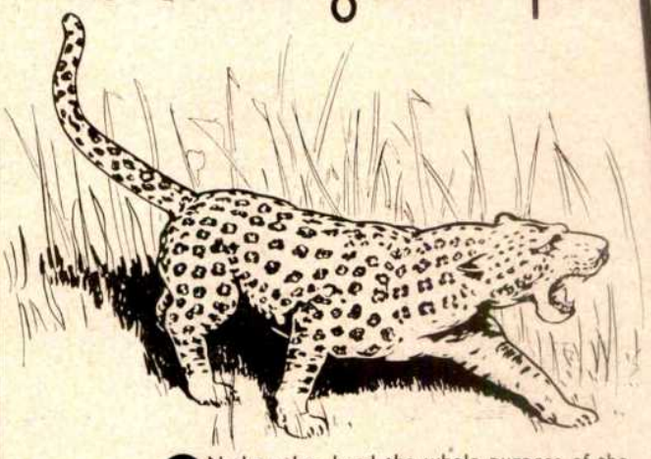
Further trials of the foot brake on wet tarmac produced the efficiency of 76 per cent of the total vehicle weight, and at 20 m.p.h. the instrument measured 47 per cent when the parking brake was applied. The corresponding stopping distances were 39 ft. and 64 ft., but, given better adhesion than that afforded by wet tarmac, the braking figures would be even better.

Further tests took place at Dome Hill, Caterham, where the gradient of 1 in 3½ provides a severe ordeal for a 5/6-cwt. vehicle carrying its full load with a heavy passenger in addition. The steep hill proved ideal for taking records of the maximum pull on different gear ratios with the aid of the Tapley instrument. On top gear the maximum pull of 225 lb. per ton was recorded just before second gear was introduced. Continuing up the hill on second gear the performance meter registered 450 lb. per ton, but after changing down into low, the van climbed the 1 in 3½ portion of the hill with so much power in reserve that the engine was not full out so the meter did not register its full capabilities.

From calculations, however, it was obvious that the maximum pull in bottom gear should be at least 600 lb. per ton, enough to take the van up any gradient affording sufficient grip for the driving wheels.

(*Continued on page* 26)

The Leopard never changes his spots



ON the other hand the whole purpose of the new Kardex invention Tri-Colourgraph is to spot the change.

Tri-Colourgraph is the latest word in graphic control. It is dynamic, it will compel attention to SELL MORE—TO BALANCE BUDGETS—TO PRODUCE TO PLAN—because it changes colour automatically as each new fact arises to shape your judgment and demand your attention—just as a leopard in your path.

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The above facts and figures give a clear impression of the measured performance of the Bedford van and it only remained to record its general behaviour when driven hard over a typical delivery route.

Restarting from Caterham the Bedford made a good impression by its power and flexibility in traffic.

The ease of control is so good that the driver soon begins to perform his work subconsciously. Roomy and comfortable, the cab is well designed to permit easy entrance and exit, so that house-to-house delivery work can be carried out with the least delay and no avoidable exertion for the roundsman.

The 5-6 cwt. Bedford van has a very economical petrol consumption, especially in view of the lively acceleration and high all-round performance. Here we are filling up for the consumption test. The smart appearance of the van, too, is indicated in this view

FACTS AT A GLANCE

Vehicle Tested : Bedford 5/6-cwt. Delivery Van.
Makers : Vauxhall Motors Ltd., Luton, Beds.
Capacity : 5/6-cwt. (70 cubic ft.).
Body Length : Behind Driver's seat, 65½ in.
Wheelbase : 94 in.
Fuel Consumption : 35·2 m.p.g.
Max. Gradient Climbed: 1 in 3.
Annual Tax: £15.
Vehicle Price : £140.

On the long and steep hills rising to Caterham Heights the engine showed its ability to produce sustained power, while when quick gear changes were necessary on the winding hills the action of the clutch blended nicely with that of the selector mechanism to produce perfect gear manipulation.

The efficient behaviour of the torsion-bar suspension, already proved by manœuvres in the Merstham sand-pit, was emphasized by the smooth motion of the van over rough surfaces at Gravelly Hill and View Point, two places notorious among local tradesmen for fractures of van springs and damage to fragile goods.

When driving any motor vehicle equipped with normal springs it is risky to run at more than 15 m.p.h. here; but by virtue of its improved suspension I found that the Bedford could be safely driven at double that speed.

Notably smart in appearance, this van offers 70 cubic feet of loading space, with additional room by the side of the driver's seat. The tax is £15 per annum and though at £140 the van costs a little more than the lowest priced 5-cwt. model, the slightly higher cost should be offset quickly by lower running expenses, easy maintenance and all-round reliability.

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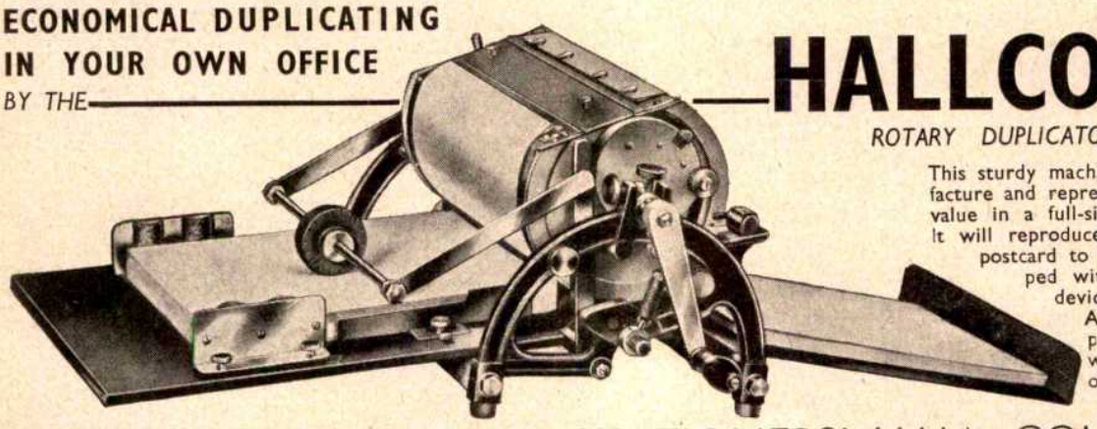

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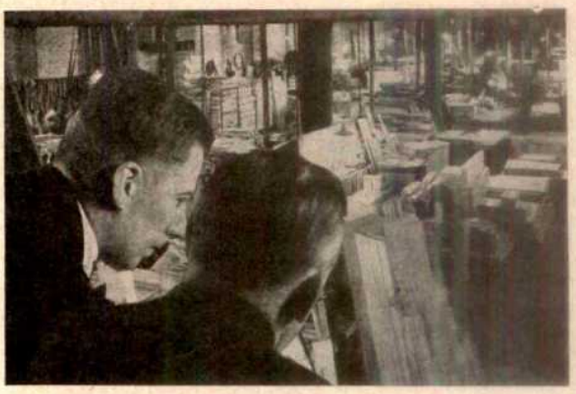


By

L. D. AVERY,

Director,

A. L. A. Cabinets Ltd.

COSTS reduced, workmanship improved, and output raised 800 per cent in six months by means of an experiment in management is the achievement of a London firm of furniture manufacturers. Loss has been turned into profit, discontent and indifference into enthusiasm and lively interest.

This young and small firm manufactures cabinets, wardrobes, tallboys and similar articles. The company started in London, expanded, and last year took over bigger factory premises outside the City.

At the time of this move the factory manager had to be dismissed. This left three key men: foremen of the machining, the assembling and the polishing departments. These three, together with the most valued workmen, formed the nucleus of the staff for the new factory.

Jealousy Makes Co-operation Impossible

It was easy enough to get other good workmen (the firm pay high wages) but the big problem was to find an efficient factory manager. They thought of promoting one of the three key men, but not one of them, individually, had the right qualifications. Moreover, the management knew that promotion of one would lead to jealousy and the disappearance of co-operation between departments.

A newcomer, a man with a good reputation as an efficient and knowledgeable factory manager, was therefore engaged. Investigations suggested that he was just the man needed.

Before long it was found the man was good in theory but not in practice. He did not form a working unit in the factory. His *practical* knowledge of all the little problems that arise in a working day was not adequate. He could give work *to* the foremen but could not work in *with* them in the way of suggesting means of overcoming snags or of gingering-up the men.

His failure was not altogether his fault. He had come from a big factory where his job was the handing out of instructions. And there was, too, the resentment of the three key men, each of whom thought he should have been given a chance as manager.

The result of this was that the foremen and the staff just did as they were told and no more. None took any vital interest in his job. Moreover, the three foremen took their cue from the manager and tended more and more to become mere supervisors. Thus the business was carrying four *theoretical* instead of four *working* executives.

The position was untenable. Wages were £100 to £180 a week and production was no more than £40 to £50 a week. Workmanship was sloppy and returns were high. Straight loss on the wage bill alone was over £100 a week.

The first remedial move was to dismiss the manager. A director then went down to the works and took control.

At a board meeting the situation was analysed. It was agreed that no good would come of promoting one of the key men, yet the difficulty of finding an outsider who would make all pull together presented a major problem. It was decided, therefore, to promote all the foremen. Each man would have equal status and each would be responsible only to the directorate.

Furthermore, to give incentive to co-operation between them a bonus of 2 per cent on the difference between the wage bill and the value of production was given.

In a conference the proposals were explained to the three men. All were pleased with the decision and showed enthusiasm.

A danger was foreseen: to get the output up to a bonus-paying level and then to drive it higher, the men might fall down on the quality of work. To prevent this a penalty clause was included in the letter of agreement given them. It was stipulated that all work returned because of bad workmanship would be doubled in value and deducted from output figures. Thus, if work to the value of £10 was returned the deduction from production figures would be £20.

Another point made was that any or all of the three men could inspect invoices or books if they were not satisfied with the figures returned. Up till now none of the foremen has taken advantage of this offer.

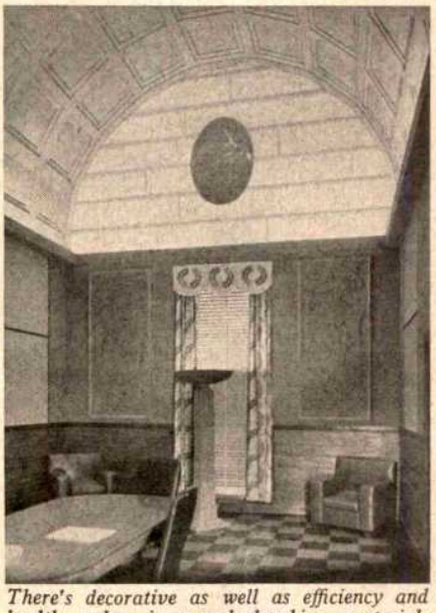
Right from the start the scheme worked well.

Costs Cut, Output Up By 800 Per Cent

The unproductive manager's salary of £8 a week was saved; the three key men started to pull their weight in work as well as supervision; the wages paid were well earned; they saw that the workmen really got on the job; they helped and hustled each other along; they were satisfied with their equal ranking.

Within 14 days of these schemes coming into operation the wage bill had been cut by a third and the output had risen from about £50 to £200. To-day, output volume has been increased by eight times, and is still expanding.

Sound-absorption Aids Good Health and Output



There's decorative as well as efficiency and health value in sound-absorbing materials to-day. This reception room at a factory, fitted out with Acousti-Celotex noise-absorbing material, illustrates the point. Even the wall carvings are done in this material

What To Do About this Factory Act. *Fifth Article*

Hours of Employment

By H. SAMUELS

Author of "Law Relating to Industry," "Law Relating to Shops," "Factories Act, 1937," etc.

UNDER the new Act the maximum hours of women and persons under 18 employed in factories have been reduced. The Act does not concern itself with the working hours of men workers: this is a matter to be determined entirely by agreement.

Nor is it all the women and young persons whose hours are thus regulated. Clerical and administrative workers are of course unaffected: women in managerial posts are not included: similarly, youths who are employed on certain kinds of maintenance work. It is only those women or young persons who are employed on, or incidentally to, the actual manufacturing processes who come within the hours regulation. This excludes the canteen worker; the assistant in the surgery, or the charwoman employed solely in cleaning the factory or workroom.

The maximum working week, then, is 48 hours. This represents a reduction of 7½ hours per week in textile factories and 12 hours in others.

It is no longer lawful to employ a person under 16 for more than 44 working hours weekly.

What are the daily maximum periods, irrespective of overtime?

The earliest time for commencing work each day is 7 a.m., and the latest time is 8 p.m. Within this range the employer may choose 11 hours and fix this as his daily "period of employment". Of these 11 hours at least 2 hours must be allowed for rest and refreshment.

Young persons under 16, however, may not be employed after 6 p.m.

The longest working spell is to be 4½ hours for women and young persons, but if a break of 10 minutes is given in the course of the spell it may last for 5 hours.

Generally the intervals are to be the same throughout the factory. Exceptions are, however, allowed in the case of continuous processes; different sets of persons divided out on separate processes; persons separated in groups for the purpose of taking their meal in the works canteen.

During the intervals the women and young persons must not remain in any room in which work is still being carried on. Here, again, exceptions are allowed, viz.: in the case of rest pauses, continuous processes, and where separate groups have different breaks.

Overtime: Its Calculation and Its Application

We now turn from the normal working hours to the overtime allowance. Complaints have been made that the new overtime rules are unnecessarily complicated. I venture to think that they are a vast improvement on the previous system, which was quite haphazard and incongruous and subjected the different groups of factories to different and multifarious conditions.

Some firms have raised quite needless difficulties. It is obvious that in a factory which works a 43-hour week the term "overtime" will not mean the same thing to the worker as it will to those employed in a factory working a 47-hour week. But it is equally obvious that the Factories Act cannot use the term in more than one sense, and that is *time worked over the statutory maximum normal working hours of* 48 *per week.*

Employers can quite easily explain to their workers when posting the requisite notices under the new Act that overtime under the Act means time worked over the 48 hours, whatever else may be commonly termed "overtime" in their particular factory.

Factories may now employ women and young persons on overtime with the exception of those who have not yet reached 16. The maximum limitations are as follow:

(*a*) 100 hours in any year.
(*b*) 6 hours in any week.
(*c*) 1 hour on any day.

Further, the overtime must not be worked in more than 25 weeks in any year. It must not be worked on any day so as to keep the employee at work outside the daily range of hours already indicated, 7 a.m. to 8 p.m., but *women* may be employed on overtime till 9 p.m., subject to the above safeguards.

Where the work or the workers are clearly divided out in separate departments or processes it will be possible to have them treated as distinct units for the purpose of calculating the overtime allowance. And here an important point to remember is that whether all the workers in that department, or only some, or even *one*, are employed during any overtime period, that period will be equally debited against the *department*.

If the business is of a special kind in which it is practicable only to employ on overtime individuals rather than whole departments, permission can be obtained to have the overtime allowance calculated on an individual basis, subject to its being reduced to the maximum of 75 hours for women and 50 hours for young persons.

How 5-Day Week Factories Are Affected

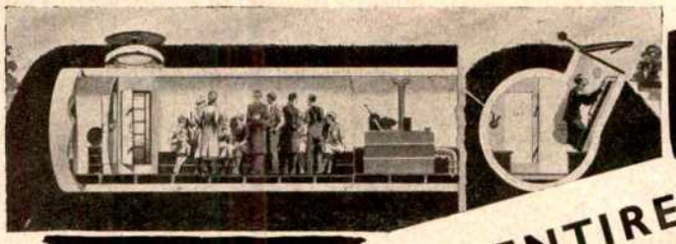
In factories which work on the Monday-Friday system the above schedule of hours is modified.

The daily "period of employment", i.e., the hours during which work may be performed is 12 (but likewise between 7 a.m. and 8 p.m.), including 2 hours for breaks. The maximum amount of overtime on any day is half an hour. If the factory desires Saturday work in a particular department this is allowable, provided that no overtime is worked during that week in that department.

Two Shift System is Not Covered

As regards the two-shift system for women and young persons, this is not covered by the new Factories Act at all. It is allowed by the Employment of Women and Young Persons Act, 1936, subject to permission of the Home Office being obtained as the result of a ballot taken among the employees.

Readers are reminded of the special advisory service which our Insurance Consultant is able to give in regard to putting them in touch with specialized Engineering Insurance Companies that carry out the periodic plant inspection and certification now necessary under the Act. Address inquiries to this Editorial Office: Whitefriars House, Tallis Street, E.C.4.



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It is not a simple matter to decide upon a plan of action that conforms with the issued instructions and recommendations of the A.R.P. Dept. of the Home Office and at the same time satisfies your specific requirements.

The Woodward Co. have made an exhaustive investigation of this problem, which is viewed as a part of the service of a general Building and Contracting firm. As a result we are able to undertake its complete solution in any business, from drawing up a scheme to training the staff in first-aid and similar work. Our service includes making air-raid shelters or any other structural alterations without interfering with your productional activities in any way. Furthermore, we look after all irritating details connected with local authorities.

Why not drop us a line? It won't commit you to anything to have one of our consultants go over your plant and tell you how adequate A.R.P. arrangements can be made at a minimum outlay.

WOODWARD & CO (FINSBURY) LTD

(Specialists in all that concerns buildings and their maintenance)

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Use

SAND-BAGS

for A.R.P.

Sand-Bags are the most economical and convenient protection against the ravages of High Explosives and Incendiary Bombs.

Here are five uses of SAND-BAGS of paramount importance to industry.

1. Making or reinforcing air raid shelters.
2. Protecting the windows of gas-proof rooms.
3. Protecting vital parts of plant.
4. Protecting expensive machinery.
5. Protecting centres of power, switchboards, transformers, gas-mains, steam boilers, etc.

A further advantage of the use of SAND-BAGS is that in normal times they are easily and conveniently stored.

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& CO., LIMITED

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GRAMS: BONZO, SHEFFIELD

TEMPERATURE CONTROL by MAGNETIC VALVES

In office

or factory

is an essential factor of

EFFICIENCY

★ *Write for the book "Temperature Control for all purposes."*

THE MAGNETIC VALVE CO. LTD

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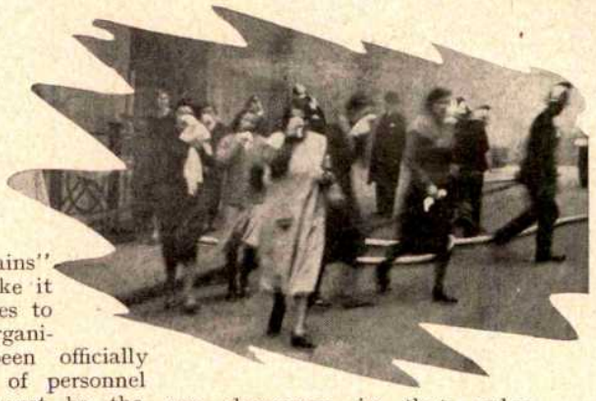
What A.R.P. Demands of You To-day

It has been *officially* decided that manufacturers and other business men are responsible for the safety of their staffs. Your job, therefore, is to get A.R.P. measures into practice in your organisation. There are no alibis. It will be too late if you wait until an emergency forces your hand.



HOW is the employer of a large staff to set about forming an organization within his business to deal with Air Raid Precautions?

The preparation of a scheme for shelters must take some time for much detailed work will have to be done. But there are other jobs which can be started at once: (*a*) training of staff in first-aid, rescue, decontamination and other A.R.P. work; (*b*) purchase of equipment such as respirators, gas-proof clothing, medical supplies, etc.; (*c*) organization of the necessary link-up between your A.R.P. plans and those of the local authorities and, possibly, near-by industrial concerns.

The first step should be to discuss the whole problem fully with an expert. The present "growing pains" in the public service make it difficult for the authorities to devote time to private organizations, and it has been officially decided that protection of personnel from air raid dangers must be the responsibility of employers. There are several firms who are specializing in A.R.P. work and planning, and have placed their knowledge and experience at the disposal of manufacturers. You can have the help of their consultant without any question of cost or obligation.

What are the dangers to be guarded against? They can be summed up under three heads: (1) high explosive; (2) incendiary bombs; (3) gas. They are dangerous in that order.

While your experts are drawing up a complete scheme there is no reason why your staff should not take up A.R.P. training in which they will be taught how to handle situations which arise under explosive, fire or gas attack. One of the best ways to start such schooling is to get some of the staff trained as instructors. They can then train the rest of the staff.

Courses for the training of key men and women in industrial concerns are

This Listing System Solves an A.R.P. Organization Problem . . .

AUTHORITIES in charge of A.R.P. organizational work found that one of the biggest internal problems confronting them was that of compiling and controlling the lists of personnel and their disposal.

A simple example will illustrate the complexity which such compilation might well assume: How to index, shall we say, Mr. X, one of many thousands of volunteers.

Mr. X has an address at which he lives and an address at which he is employed, he serves, for A.R.P. purposes, in a certain area, he is a car driver, is on the telephone, is an electrical engineer, is available for his voluntary service only during certain hours, he has been issued with certain special equipment, and so on.

Now if emergency calls for volunteers came without any need for special requirements the authorities would have no problem at all; a list of names might be sufficient. But that is not the case.

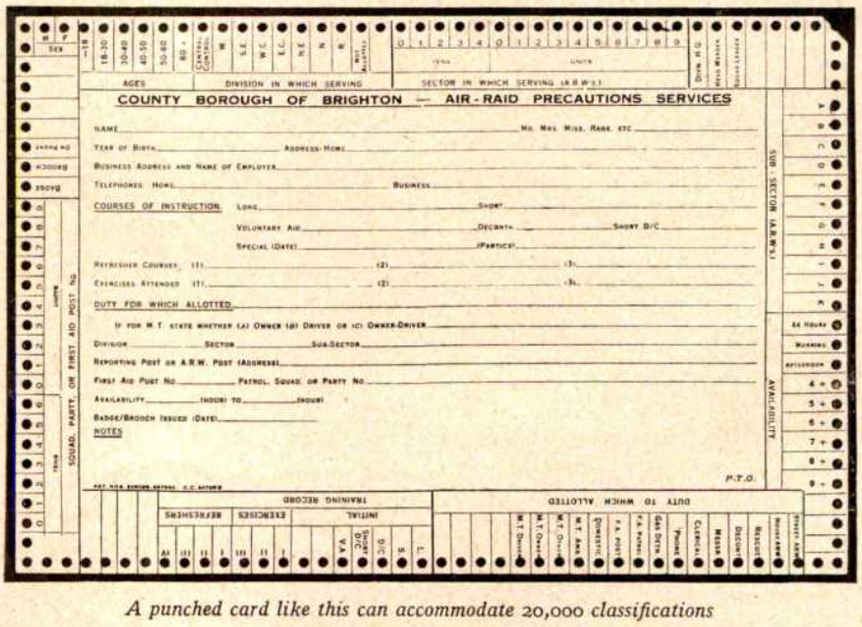
The controller may at any moment want, say, all men who (1) are on the telephone, (2) who are car drivers, (3) who have special electrical knowledge and (4) who are available at 3 p.m.

Obviously, for a quick comb-out of this sort, a list of mere names would be hopeless. So the first idea of the authorities was a separate list of volunteers *under each category*. A colossal undertaking, if only on account of the amount of materials and filing space required.

To solve this problem at one stroke Copeland-Chatterson Co., Ltd., adapted their Paramount Punched Card system. Just as this system has solved the problem of classified lists for hundreds of business uses it has come to the aid of the A.R.P. organizer. On to one master card it brings 134 classifications for each individual, so that all a clerk needs to do to find all the men with the qualifications just mentioned is to needle sort the index four times. About four seconds is required for this operation. Four hours or more would be needed the other way.

As a matter of fact, on the specimen card shown here 10 or even 20 times the number of classifications given could be 10 or 20 times as great. On a 6 by 4 inch card system installed by one business firm recently the same form of simple "needling" gave any one of 19,800 primary classifications.

Copeland-Chatterson Co., Ltd., have made a close study of the statistical needs for A.R.P. work, so if business organizations or local authorities require any assistance in building up really efficient routine the company will be glad to advise, free of charge.



A punched card like this can accommodate 20,000 classifications

given now by most local authorities. If such courses do not yet exist in your area, it is one of the organization "link-ups" to meet the authorities and come to an arrangement with them.

You may also find it necessary or expedient to discuss with your local authorities and with other business leaders in your district the detail of the A.R.P. schemes in use in your factory and offices. Individual schemes must, to some extent, dovetail with civil schemes. As you can readily understand, one can be helpful to the other when an emergency occurs. Such planning also avoids confusion in personnel arrangements. Some of your staff, no doubt, will have civil duties to perform or could be released for that purpose. Details of this kind must be worked out completely now so that your and the complete local organization does not break down when a crisis arises.

In the purchase of equipment, too, pooling of knowledge and experience with local authorities and other industrialists may be of considerable value. Sources of supply, prices, standard of equipment and results of tests, etc., can be better and more quickly known if there is general co-operation between interested parties.

These are all vital phases of A.R.P. work which should be attended to immediately.

In the meanwhile investigation of the shelter problem can go on. Experts have agreed that there are, to sum up generally, five means for manufacturers to provide for their staff (1) by using an existing building as a shelter; (2) by trenches or other outside shelters; (3) by galleries (of the type used in mines) where these exist already or where they can be constructed more easily than special shelters or trenches; (4) by dispersal; (5) by any combination of methods 1 to 4 mentioned.

Reinforced Concrete Buildings Will Resist 'Blast'

Multi-story reinforced concrete buildings are the most suitable for containing a shelter because they are structurally strong and can withstand effects of blast and splinters. Unless your building is able to do this or can be reinforced to the required strength, it is of doubtful value as a container of a shelter.

The basement of an ordinary building, however, may be used. Below ground level is the best place for shelters because lateral protection is automatically secured. Basements also provide extra overhead protection because of the floors and roof above. But for specific knowledge of whether or not your basement will provide a suitable shelter you must get the advice of a technical expert. This is important because local authorities are strict and may veto your plans unless they meet every requirement.

A basement shelter should not, of course, be below the level of sewers. You can overcome such difficulty by constructing entrances above floor level. This, also, is a means of solving the problem of a weak building above a basement.

If your building or the basement is suitable for shelter purposes, what action do you take? First, the number of persons to be accommodated must be settled. This is a simple job. According to the Home Office recommendation, an allowance of 75 sq. ft. of surface area (floor, ceiling and walls) per person should be made for unventilated shelters. On this basis shelters may be occupied up to a period of six hours. By increasing the space allowance per person, the period can be extended. For instance, an allowance of 100 sq. ft. per person provides for a stay of 12 hours. With ventilated shelters the period of occupation can be extended indefinitely.

Where you decide to introduce a gas-filtration and ventilating plant an allowance of 6 sq. ft. of floor space per person is desirable. The minimum allowance should be 3½ sq. ft. but this provides standing room only and is not recommended. A better allowance is 7½ to 10 sq. ft. per person as this permits people to lie down and provides a reasonable amount of comfort.

It is worth while to provide several shelters as dispersion is a measure for safety in itself. No one shelter should take more than 50 people. If, for example, you crowd all your staff into a large shelter one direct hit by a high explosive bomb would probably be completely disastrous.

(*Continued on page 32*)

What Paint shall we Specify?

AN ANSWER TO EVERY PROBLEM—ON THE DECORATION SIDE!

For Outside Walls
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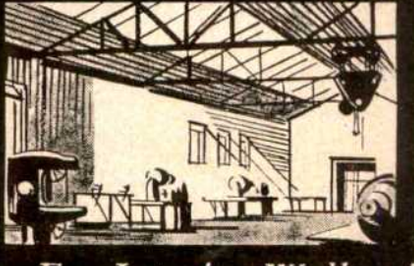
THE CONCRETE PAINT
TUNGCRETE
WEATHERPROOF IMITATION STONE PAINT



For Interior Walls
SISSONS FACTORY WHITE
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FLATOMUR
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THESE ARE SISSONS PRODUCTS

How Important Are *Transport Facilities* in Factory Site Selection?

By a 'BUSINESS' Investigator

TRANSPORT facilities always form an important consideration in the choice of a factory site, but, except in special instances, they no longer put a limit on where a manufacturer may locate. Indeed, the reverse is more true: modern transport facilities have made industry mobile.

In recent times two important means of transport have been developed: (*a*) motorized road transport; (*b*) air transport. The former has in the past decade or so become a really vital force in commerce; it has taken from the railways and canals a great volume of the work of moving materials, goods, etc., up and down the country. Air transport, of course, is still in its early stages of development, but every year it is carrying more and bigger quantities of goods and materials for business men.

Allow for 'Elastic' Transport Facilities

These elementary facts are so well known that there is a chance that they will be overlooked in some board rooms when the choice of a new factory site is being discussed. Old ideas die hard. The necessity in former years for a factory to be alongside or very near railway and canal services is by no means a dead point of view among the elders of the board-room conclaves. The elasticity and carrying power of modern road transport is not fully appreciated.

An example of this outdated point of view came to my notice a few months ago. A big firm of manufacturers, whose bulky raw materials come from overseas via the port of Manchester and whose coal consumption is exceptionally heavy, decided to locate in a works distant from railway and canal facilities. Some members of the board argued against this location on account of transport of coal and raw materials. Other directors were able to produce facts and figures to show that road transport could handle both supplies economically.

In actual fact this firm had an advantage over a rival concern which had located at the port where the raw materials were landed. These materials were brought, in bulk, to the factory. This meant low transport costs. The finished products, however, had to be distributed in small lots, and the firm's new factory was in the centre of the market for the goods. A big savings in time and cost of distribution and a better service to customers was therefore made. The rival company at the port, on the other hand, saved a small percentage in getting the raw materials into the factory but lost more than this advantage in the distribution of the finished goods because they were some distance from the main market.

Do not misunderstand me when I make out this case for road transport. It is not an argument against railways and canals: far from it. The majority of firms, big and small, use railways, canals and roads. In some instances they find that rail transport alone is the best means of handling inward and outward flow of materials and goods to and from their factories. And there are cases where companies chiefly use water transport. Much depends on the volume, type and destination of the goods to be transported.

The main point I wish to emphasize is this: because you rely on one type of transport at your present factory that does not necessarily mean you must rely on the same type at a new factory. Before a decision on the transport factor is taken you and your co-directors should be right up to date with your facts and knowledge about transport facilities in relation to materials and goods to be transported.

A big trouble is that so many firms *think* they know their transport requirements. When they come to choose a new site they base their demand for transport facilities on their *habit* of dispatch of goods and materials. As in every other phase of business, the transport section needs to be checked up from time to time.

How New Methods Can Save Costs

An illustration of the value of this policy comes from the General Electric Company. Not many manufacturers yet use air transport extensively, because they do not realize what extensive facilities exist or the economies that can be effected. But the G.E.C., by using the Imperial Airways London-Paris service for the dispatch to the Continent of small parts, wireless sets, etc., have been *able to close down their Paris warehouse*.

One manufacturer in the Midlands recently told me that the proportions of his transport carried by rail, water and road has been radically changed since he moved to a new factory.

"When our board examined the transport problem we asked ourselves five questions," he said: "What facilities do we need to carry the volume of goods and materials to and from the factory? What facilities are needed to take care of the bulk—weight and size—of our products? What will be needed to take care of possible future volume, weight and size? What speed of transport do we want, and what will be the cost of each of the various means of transport available to us?"

These are five questions which many boards would find worth while discussing when the choice of a new site comes up. Except in cases of firms that do keep up to date on factors of this kind, the questions will help the board to learn precisely the type and extent of transport facilities required at the new location.

What A.R.P. Demands of You To-day

(*Continued from page* 31)

Another point to keep in mind is accessibility. Employees should be allocated to the shelter nearest them. Carry out tests to find how long it takes for everyone to reach his or her assigned shelter. Such tests will show if modification of stairways, entrances, etc. is needed.

A problem that calls for special knowledge and advice is that concerning the work that must be done to make a shelter effective. There are a number of points to consider here. Shelters should be under the centre of the building rather than against the outer walls. They should not be located near boiler-rooms or similar places which might themselves constitute a risk. Positions below water tanks, heavy machinery and so on are also to be avoided as this plant might be dislodged and crash through the roofs of the shelters. On the other hand, a position under central corridors is an advantage as a small span of ceiling is strong and, therefore, provides additional protection and costs less to reinforce to the required strength.

The strength of a roof can be ascertained if the original detail plans of the building are available. If not, examination and measurement by a competent authority will provide the facts. Strength of walls and floors must also be known as reinforcement to take the additional burden will probably be needed. But to settle all these points—indeed, to tackle the whole problem—you need the advice and work of competent technicians. *This advice can be obtained free and detailed plans and estimates can be had for a nominal fee by readers of* BUSINESS.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

AUGUST, 1938

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THE TREND OF TRADE

PRICES Will Determine *The New Season's Prosperity*

By THE EDITORS

WHAT are the prospects for business this autumn and winter? The question is vital for on its answer will be shaped plans and policies that will govern the progress of industry and commerce during the coming six months.

Let us give an answer and later examine the facts and show the reason for our conclusions:

At the worst there will be no major slump; at the best there will be a measurable upswing in trade; under any condition likely to exist those firms which adopt vigorous policies to expand trade, rather than cautious holding on to what they now possess, will prosper.

This is a period of uncertainty. Therefore opinions are clashing and conclusions differ radically: more than ever the soothsayers of the economic world take current facts and read into them evidence of this or that trend; even cold statistics are infused with heat of economic-political ideologies; facts are fictionalized for the love of "isms". The future is bright with hope or gloomy with despair according to theories and viewpoints, not always according to available figures, facts and information.

What Current Figures Show

WHAT is the figure-fact evidence on current conditions? Let us examine key statistics for in them we find most of our answers. Here are the figures, the pluses or minuses showing gain or loss last month as compared with the *corresponding month of a year ago:*

Employment—2.8; unemployment —1.3; retail sales—6.1; railway traffics —2.3; provincial bank clearings—19.4; iron output—22.7; steel output—30.3; coal output—13.2; rayon output—10.0; motor car production—11.1; building plans passed total—7%, but housing plans up by +.01; exports—23.0; imports—14.1; commodity prices—9.7.

Employment and unemployment figures are always taken as significant.

NEXT MONTH

Detail Survey of
ADMINISTRATIVE EQUIPMENT FOR FACTORY, SALES AND GENERAL OFFICES

See Announcement on page 14

In June there was a decrease of 42,000 employed compared with May and of 326,000 compared with June, 1937. Registered unemployed increased by 24,107 on May and 500,000 on June last year. How significant for and against further deterioration of business are these figures? The official explanation of the lowered returns is: (*a*) prolongation of Whitsuntide holidays; (*b*) the figures would have been better had they been collected on an exactly corresponding day to those for June, 1937; (*c*) the number of school leavers entering the labour market. There may be some truth in these reasons, but that does not explain away the steady decline of the past few months.

It is significant that industries showing most decline are cotton, wool, boots and shoes, clothing, etc.—producers of consumer-type products. This supports a point we have raised in BUSINESS in the past six months: that retail prices are too high or, to look at

An artistic impression of hand setting by an Avery compositor.

AVERYS

Typesetters of Repute

In addition to skilful setting for press and catalogue we specialise in ARTWORK, PHOTOGRAPHY, RETOUCHING, BLOCKMAKING & STEREOTYPING. Avery craftsmen co-operate to give you a complete advertising service Day & Night.

From Rough Layout to Finished Block

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problem from another angle, that
s have not kept pace with prices.
wage index rose from 100¼ in May,
to 103¾ in May this year, the rise
tail prices has been steeper. The
is obvious. Consumers have had
t down their buying.

e steep rise in prices of raw
rials a year ago may have justified
e in retail prices on the basis of
ufacturers' costs, but not of the
c's purse. It was not long after
rises took effect that the decline
ed. The public *would not pay*
. The facts now seem to indicate
John Consumer was right: *he*
not pay more and still buy similar
tity and quality.

Snag: And Remedy

RHAPS here is the key to improve-
ent of existing conditions and to
ing a good trading period ahead.
material prices average 9 per cent
a year ago. Retail prices are
dy showing declines. Even though
ufacturers may have stocks bought
gher levels, it would pay them to
the trend and reduce their prices.
ntly an important chain store firm
llors cut retail prices by 5 per cent
sales figures have already justified
olicy. The facts are inescapable:
vage levels of the mass market are
ufficient to maintain high business
ity *at high prices*. The general
er cent rise in retail prices which
place at the end of last and the
ning of this year was about that
nt above the purchasing power of
nass market. Wages have had an
rd trend, but there is nc chance
general increase in wages that
l bring up general purchasing
r to the required level, nor would it
esirable at this juncture. That
ns us to the inevitable conclusion
retail prices must and will come
, and so help to increase trade.

e Definitely ourable Signs

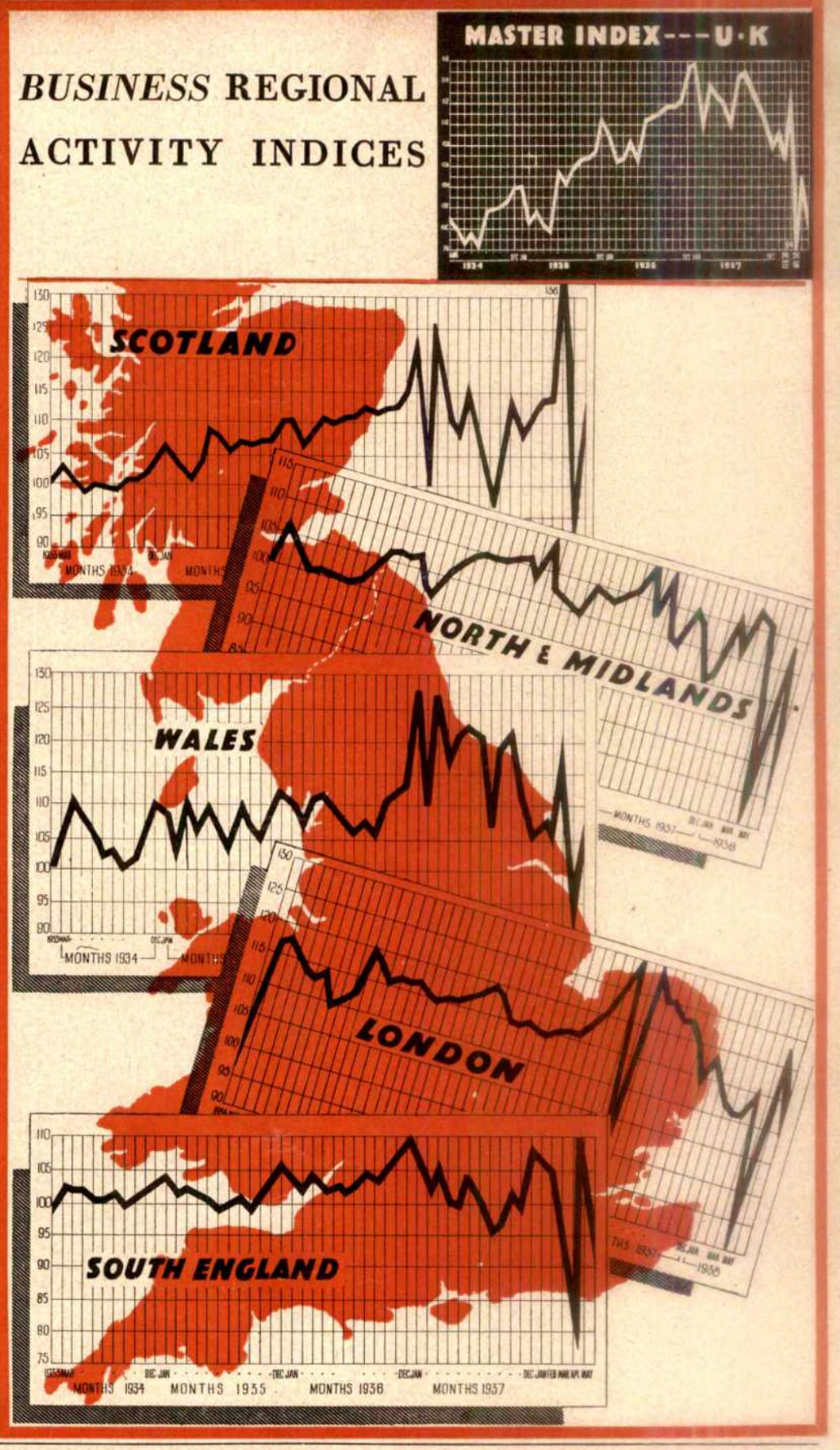
T there are definite factors pointing
a coming improvement; and even
bove-listed statistical minuses are
o unfavourable as they may look.
mpare June of this year with *two*
ago and virtually all these falls
pear. Employment, coal and iron
t, bank clearings, are about the
as two years ago. Railway traffics,
ts, retail sales, are actually up;
building is down. And two years
ve considered ourselves on a fairly
erous basis!

rthermore, material prices are
which *should* bring down costs:

Reading the Indices

hese new indices, the average business activity
area during 1933 is taken as the base (=100).
lices are given by months.

BUSINESS REGIONAL ACTIVITY INDICES



NORTHCLIFFE NEWSPAPERS THE 10 TEST TOWNS

TEST YOUR ADVERTISING ECONOMICALLY

IN A *PROVED* TEST MEDIUM

No. 7. LEICESTER EVENING MAIL • 1938 MARKETING BOOKLET FREE ON APPLICATION •

HN COOPE • Advertisement Director • **NORTHCLIFFE NEWSPAPERS GROUP LIMITED.** Carmelite House, London, E.C.4. Phone: Central 6000

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COMMERCIAL ARTISTS

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"To all who visit the Exhibition we extend a warm invitation to inspect our Works."

SCOTTISH STUDIOS & ENGRAVERS LTD.

196 CLYDE ST. GLASGOW

yet commodities have turned from the bottom and are turning upward, which will stimulate foreign buying. Manufacturers' and wholesalers' stocks are low both here and in the U.S.A. A vast and steady expenditure on arms production is still to come. The Chancellor of the Exchequer recently stated: "The rearmament programme will not reach its peak expenditure until 1939-40 or even 1940-41." The original estimate of rearmament was £1,500,000,000, but it is now generally admitted that a sum greatly in excess of this will ultimately be spent. This money will keep employment at good wage levels among tens of thousands for a number of years. The downward trend of house building has stopped; plans passed have now for two months been higher than a year ago; Government building will probably take up the slack in commercial building; so that the building industry seems sure of maintaining its present high level for some time to come.

U.S. 'Go' Signal May Work This Time

TWO other factors that have a bearing on future conditions here are: the state of American business; the international situation.

Americans are expecting a definite upswing in trade in the Autumn. Many trade indices are favourable: higher commodity prices, brisker retail trade, good harvests, reduction of stocks to a point where replacement is becoming imperative, slightly higher steel and coal and ore output, expansion in certain stable manufacturing lines like textiles and shoes, building plans well up, increased goods traffic; the President's £200,000,000 spending programme for relief and "pump priming."

The upward swing in American stock markets has afforded a marked indication of belief in these upswinging factors. It marks also, perhaps, a change in the mood and outlook of the business community itself which would be just as important. There can be nothing certain about this American upturn as yet; it affects only consumer goods and may not go far; but, at any rate, for the first time in more than a year the signs are favourable instead of unfavourable.

An upturn in America, the increased buying of raw materials it will bring about, the expansion of general buying both at home and abroad—all these would have an immediate reaction on British business.

Empire Still Sitting in The Sun

EMPIRE countries are continuing their prosperous way. Australia has a budget surplus of £3,500,000—its seventh successive yearly surplus. With prospect of recovering wool markets, Australia will have no reason for slacking off. South Africa shows no signs of any decrease in its upward swing of prosperity; manufacturers are recording good sales and many are extending their

drive it home!

The illustration and design of advertisements and any class of printed matter comes within the scope of the K & C creative studio. Artwork is produced with the object of selling simply and effectively. The work is good and reproduces well. It *does* convey the story and drive it home!

May we quote for your next order?

KNIGHTON & CUTTS LTD

BLOCKMAKERS, ARTISTS, PHOTOGRAPHERS, TYPESETTERS, ELECTROTYPERS AND STEREOTYPERS • HAM YARD, PICCADILLY CIRCUS, LONDON, W.1

PHONE: GERRARD 5231 (many lines)

factories. Canada with a good wheat crop, with industrial production maintained in spite of adverse U.S.A. influences, with its recently inaugurated participation in the British rearmament programme, and the prospect of bigger sales to the U.S.A.—has a fairly good outlook. Newfoundland is well on the way to recovery; its state revenue is the largest in its history, money is being applied to reconstruction and expansion programmes, spending power is increasing.

On Balance, World Curve Is UP

THE international outlook is slightly better on balance than it was a month ago. The Far East shows no change for the better, although Japan is trying to increase her purchases of raw materials. Succeeding crises in Central Europe have been decreasing in intensity. Germany has both a political and economic current problem in digesting Austria. It is a favourable factor that German attention should for some time be concentrated chiefly on this problem of political and economic internal reconstruction. Furthermore, Germany has not yet solved her problems of economic self-sufficiency. To be self-sufficient Germany needs more capital, more workers, more production, both agricultural and industrial. But also she needs certain buyers of her exports to cover her essential imports; For the last six months her exports are down by 10 per cent, imports up by 13 per cent. Self-sufficiency is leading to rising costs which endanger wage and price stability, and make exporting more difficult.

In France the present Government is having a stabilizing effect although the improvement is very slow. The Spanish situation too, if it shows any change, has slightly improved. But on all these points the European situation is still uncertain and problematical. It is consequently still a brake on world business and is making no contribution to its improvement.

To sum up: world conditions are no worse than they have been for some time, in some respects slightly better; Dominion prosperity continues; the United Kingdom outlook is somewhat more favourable for the Autumn; the U.S.A. situation may produce a definite upturn there which would intensify the favourable trend in the United Kingdom.

Air Service Cuts Out Warehouse Expenses

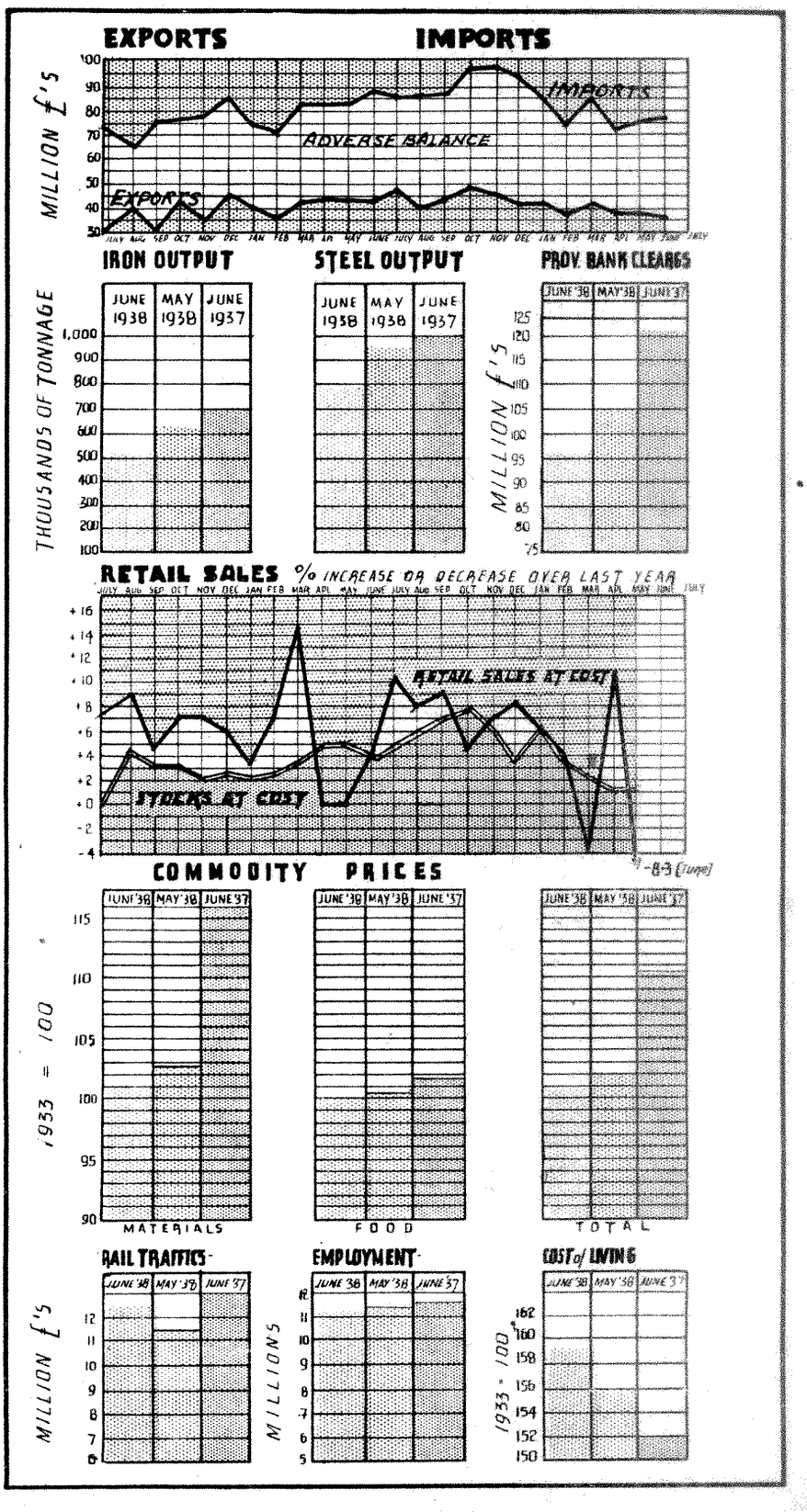
USE of the London-Paris Imperial Airways service has enabled the General Electric Company to dispense with a Paris warehouse in which the firm used to hold stocks for local supply. Valves, electrical equipment parts, wireless sets, etc., are now flown to the Continent. All these supplies can be delivered in a few hours from London.

Not only has the cost of maintaining a Paris warehouse been eliminated and time in transport cut enormously but packaging costs have been lowered. It is found, for instance, that goods can be sent in ordinary cardboard containers without any risk of damage. If sent by surface transport, however, most products have to be packed specially for protection against damage.

This example of the value of to-day's air services is not uncommon but there are still many firms that do not realize and take advantage of the facilities available. This applies to inland as well as overseas air services.

GUIDING FACTORS IN THE TREND—

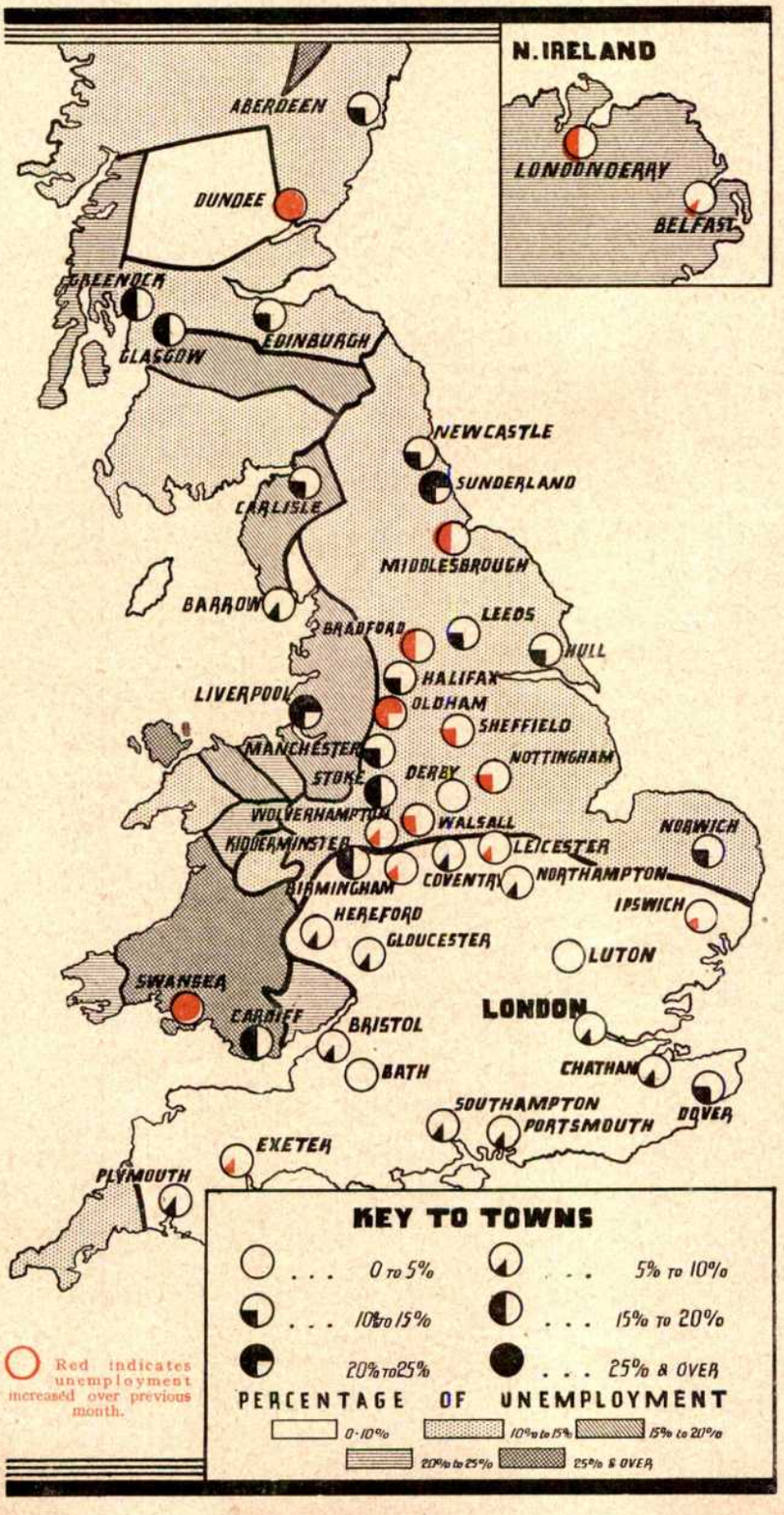
All comparisons are with the similar month in last year, except unemployment



Here's *NEWS* of Active Home Markets

September Is Opening date for new West Hartlepool airport, one of the largest in Britain, with 1,000 yard runways in all directions—Trafford Park Steel Warehouse, Ltd. are giving employees holidays with pay in addition to extra three weeks wages awarded staff under profit-sharing scheme—Two other Lancashire firms (Richard Johnson & Nephew, Ltd., Manchester, and Holdsworth & Gibb, Ltd., Swinton) employing nearly 2,000 men are also giving holidays with pay—Largest cereal factory in British Empire opened at Stretford, Manchester, by Kellogg Co. of Great Britain, Ltd. Employing some hundreds of men, women and girls.

Eight Big Stores in various parts of England are to be opened by Littlewood, Ltd., Liverpool, this year. Branches are opening in London and Birmingham this autumn. Later stores are being started in south-west London, Maidstone, Chester and Northampton—Lancashire County Council are carrying out for Transport Ministry road construction schemes costing £220,000—Burgess, Ledward & Co., Ltd., Walkden, have perfected production of artificial wool fabric to compete against artificial wool cloth produced by Germany, Italy and other foreign countries—Mandleberg & Co., Ltd., Pendleton, are producing by secret process a special water-resistant material. Production has now reached 300,000 yards a week.



Nearly 2,000 Men will be employed at the new steel tube works opened at Jarrow—Recently opened factories in N.E. include doll factory, Hartlepool, two knitwear factories at Tynemouth—North-Eastern Trading Estate, Team Valley, Gateshead, now has 97 tenants. These include 15 firms in light engineering, 12 manufacturing foodstuffs, six making clothes and nine producing furniture—Low temperature carbonization plant, Seaham Harbour, is near production. Ultimately 1,000 men will be employed—Durham Timber Co. are building a new factory at Crook, County Durham. Will employ about 300 men.

Shipyards in North-East have this work on hand: Hawthorn Leslie & Co., Ltd., nine merchant and four war vessels; Vickers-Armstrongs, Ltd., three merchant ships and five warships; Redhead & Sons, Ltd., three war vessels, including a battleship; Doxford & Sons, three vessels; Bartram, Ltd., seven ships; Furness Shipbuilding Co., Ltd., four vessels; Wm. Gray, Ltd., three tankers; Smith's Dock Co., Ltd., four ships; four other firms on the Wear are building between them 16 vessels. Hughes Bolckow, Ltd., ship repairers, have 28 vessels in hand.

About £200,000 Is Being spent at Middlesbrough on a new big stadium for physical training and sports—Two new coal seams have been found at Beamish Pary Pit, County Durham, owned by Lambton, Helton & Joicey Collieries, Ltd. Will last 20 years, employ about 1,000 men and boys—Craven Bros. (Manchester), Ltd., machine tool makers, are extending their works because of heavy order bookings—Dick Kerr's, Ltd., Preston, have booked £36,000 order for locos. for New Zealand Government—Pretoria (South Africa) City Council have ordered 24 double-decker and 10 single decker trolley bus chassis from Leyland Motors, Ltd., near Preston—Peter Crook, Ltd., Bolton, have taken over a mill at Farnworth. Will employ about 400 operatives.

Bristol's New £400,000 municipal buildings are being erected at College Green. New buildings will be completed in 1942—£20,000 scheme for new roads, sewers, etc., at Knowle passed by city council. Also passed is development plan for shopping centre at Filwood Broadway, Knowle and Bedminster housing estate. Further 184 houses are to be built on this estate—R.A.F. training centre is to be established at Bristol airport—Bristol Docks, with record foreign and total tonnage entering port, have reduced the general rate in aid by £5,000 to £35,000, lowest since 1906—City Council has authorized construction of New Eastern Road at gross cost of £254,000—Rateable value of Bristol increased £90,378 on the year to £3,331,637.

Marketing TRENDS . . .

Current Facts that will help in Shaping your Sales Campaigns

By the
MARKETING EDITOR

Sino-Japan 500,000,000 Grab Trade by Sweet Shop Tactics

LET us look a bit farther than our noses this month, to see where vigorous selling effort can develop Empire and other overseas trade, thwart threatened annihilatory competition.

China and the East are big customers of British business men; Empire countries are expanding markets: but for how long?

Consider the East first. Business men who know the Orient intimately say that unless immediate steps are taken to develop and consolidate eastern and Empire markets, there are disastrous conditions ahead.

Mr. H. B. Donaldson, a business man who has close personal contact with Oriental conditions and who is now organizing secretary of The Empire Development Conference, says: "An industrialized Orient, which is coming about, means increased and infinitely more intense competition in all markets and complete closure to us of many."

Business Will Go On— But It Won't Be Yours

WHAT facts support this view? Several. Here are some quoted by Mr. Donaldson: Japan is carrying out intensive and spectacular empire building in Manchuria and in those parts of China over which she has gained control; education in practical handicrafts, supervision of primary and secondary industries, training in and development of mass production, etc., is progressing on a scale which is ousting European and American business men from the market.

'A ten year programme for rearing Mongolian sheep crossed with merinos is already bearing results, threatening the Australian market; intensive cultivation of cotton will soon cut out imports from America, India and Egypt; manufacture of cotton, woollen and other goods will, in a decade or so, be of a volume sufficient to supply completely the eastern market and leave vast surpluses with which to swamp Empire, European and American markets.

These facts may not immediately or directly influence the curves on your sales charts. Maybe you are not interested in overseas markets. But do not allow such factors to cloud your judgment. Loss of markets, of British investments and, eventually, of Empire countries, will in the end be as disastrous to all businesses as it is to those immediately concerned.

If You Don't See This Bogy You Soon Won't See A Market

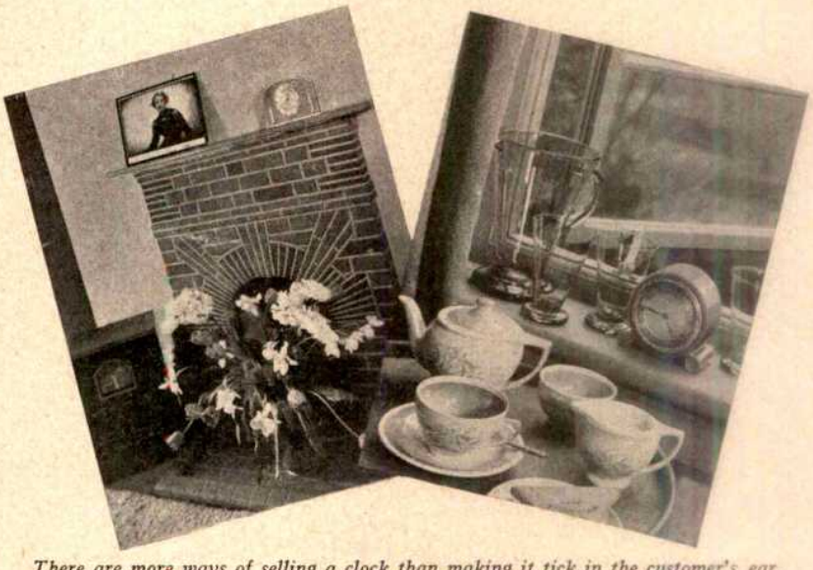
THERE is no cheap sensationalism behind these statements. If British business leaders *knew* the facts and existing conditions, the trend would be obvious. But, as Mr. Donaldson told me in a talk I had with him last month: "The facts are unassailable and are *not* realized in this country. If business men are to continue getting business, a much longer view will have to be shown towards our major problems in order to inspire the only action that can ensure the future."

Guts, Brains Needed To Get These Markets

WHAT is the answer to this problem: What part should the business executives play? The answers are several. They concern the boardroom in general and, to some extent, sales executives in particular. For it is the sales executives who can make vigorous and immediate effort to develop and hold Empire and overseas markets while broad scale policy and plans are formulated and put into practice.

Action to take includes: (a) investigation and survey of *all* Empire and overseas markets; (b) determination on long-term plans for attack on and development of each specific market; (c) special plans and effort for expanding those markets in which you already trade and know well; (d) adaptation of existing products and production of new lines to meet exact requirements of overseas markets.

The work to be done is vast; but it can be done, despite embargoes, quotas and other hindrances to trade. I know one Birmingham business man, for example, who, in three years, has built up sales for his product—a short-run reproduction machine—in nearly every country in the world. It has meant untiring effort, a fight every inch of the way. But he has done it. So can other firms, yours included.



There are more ways of selling a clock than making it tick in the customer's ear. Here you see the method used to sell Temco Synchronous Electric Clocks (made by Telephone Manufacturing Co., Ltd.). Could you use an idea like this?

Action, Not Chair Squatting, Is Key to Boardroom Policy

BEHIND this sales effort can come the big policies and plans of the boardroom. A first job for directors is to contact The Empire Development Conference, 11 Grenville Place, London, S.W.1. Here national scale co-operation between business leaders is taking place. You can join in to your, and the country's, advantage.

Individually, firms can help by (a) setting up factories or businesses in Empire countries where it is uneconomic to supply the market from home factories; (b) investing funds in Empire industry and commerce; (c) buying raw materials and other goods from Empire countries.

This New Company Sells *DESIGN*

THERE is always some time when a manufacturer is faced with problems of industrial and marketing design, and frequently he is at a loss to find the correct solutions to these problems. That is why the formation of a new design organization, known as The Design Unit, Ltd., is interesting news to the makers of all kinds of products. The new firm is capable of handling every kind of design need, from the layout of a label or carton to the styling of a locomotive or the body of a delivery van.

R. LONSDALE HANDS

Managing Director

NORBERT DUTTON

Director of Production

To carry through this ambitious scheme of work the company has on its staff, or is collaborating with, a number of specialist engineers, chemists, architects and other technicians, advertising and display men. The managing director of the new firm is R. Lonsdale Hands, for five years advertisement director of *Shelf Appeal*. Director of production is Norbert Dutton, industrial and packaging designer, formerly chief designer to Metal Box Co., Ltd. Major Charles Russell, lately assistant advertisement manager of *Shelf Appeal*, is director and secretary of the company.

Technical consultants already retained by the firm include: R. Duncan Scott, A.R.I.B.A., A.A.Dip., practising architect and lecturer at the Architectural Association; Kenneth C. Davis, A.M.I.Mech.E., A.M.I.Loco.F., practising railway engineer; J. Beresford Evans, industrial stylist and lecturer at the Central School on Industrial Design; F. C. Ashford, associate designer practising independently.

Arrangements are now being made for the co-operation of a research chemist, another engineer, a surveyor, an exhibition and display specialist, an interior decoration specialist and a market research authority. These men will be at the service of clients of the company and will deal with those specific problems of design which they are competent to solve.

In summing up the aims of the company Mr. Dutton explained to BUSINESS: "Design to-day is not a matter of giving a pleasant external appearance to individual products and appliances. It is a process which should start with the origination and perfection of the product and should enter into every aspect of a firm's relations with its customers.

"This conception of design is too wide for the individual designer with his necessarily limited experience and specialized skill; it demands team work, flexibly organized so as to preserve the individuality of each designer's work.

"Design, as we see it, aims at giving the consumer something which fulfils a need as efficiently as technical ability can make it for the price the consumer wants to pay, and at creating for it a form and a setting which will make the consumer willing to pay that price."

From the manufacturer's viewpoint this comprehensive policy and work should be of important service in expanding old or opening up fresh markets and launching new products.

A *FREE* Cabinet for your Office Sundries

CONTROL of essential typewriter supply stock is often lax or does not exist in many small and medium-size offices, which leads to loss of time and money and waste of materials.

Take the case of a London firm which recently transferred to new offices. The person who was detailed to collect and itemize stationery and supplies discovered in various desks, cupboards and containers enough typewriter ribbons and boxes of carbon papers to meet the firm's likely needs for the *next five or six years*.

Now this is not an exaggerated instance and there are many firms that similarly accumulate expensive stocks of office sundries—erasers, pencils, backing sheets, clips, pins, as well as the more costly ribbons and carbons.

It is quite a simple matter to institute a satisfactory control of these office stocks. Even allowing for the fact that the person responsible for supplies is changed frequently, money, time and materials need not be wasted if a central place for keeping stocks is arranged. A small cupboard or container will do. Better still is to have a small cabinet such as Rikarbon Co., Ltd., 28 Victoria Street, London, S.W.1, is now offering, *free of charge*, to customers who buy a specified small quantity of carbon paper and ribbons.

The cabinet is a handy size, 20 in. wide by 15 in. high by 15 in. deep. It has space for 24 boxes of carbon paper and a divisional tray that holds 36 or more typewriter ribbons and a quantity of cleaning accessories, erasers, and so on. For any office that has four or more typewriters, it is a first-class storage place for the sundries mentioned. You can see at a glance the state of the stocks and can re-order with the certainty that you have not got a lot of materials lying around in odd places.

The cabinet makes an attractive piece of office furniture and certainly provides a simple method of eliminating waste and controlling stocks of typewriter supplies.

USE THIS COUPON

If you desire information from the Editor or from Advertisers attach this coupon which should be signed by a responsible executive, to your business letterhead and post to:—

BUSINESS Service Department, Whitefriars House, Tallis Street, E.C.4.

Please send, without obligation, more information in connection with advertisement (or advertisements) in the August, 1938, issue of BUSINESS numbered below.

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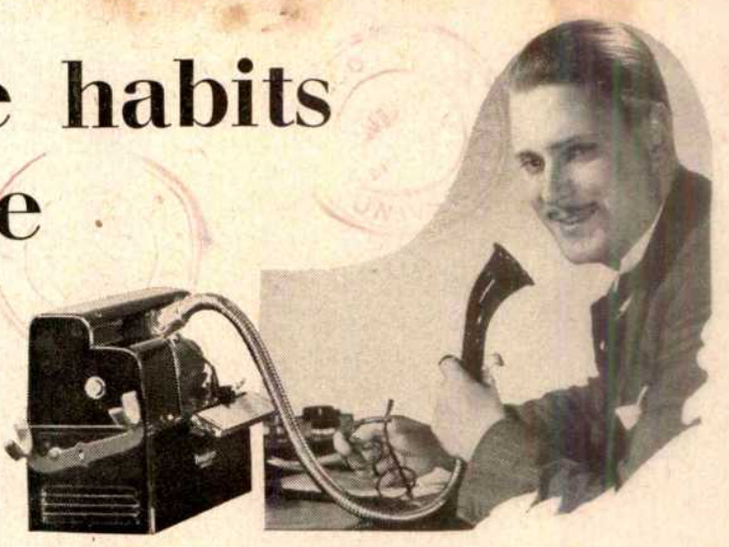
Changing the habits of a Lifetime

A REVOLUTION IN BUSINESS METHODS



TO induce a man to change the habit of a lifetime, even for something demonstrably better, is never an easy task. Human nature is in its essence conservative, and most men—Englishmen in particular—tend to act along old-established and well-worn grooves. The way of the pioneer is always hard.

How to change a business habit of a lifetime was the problem which, nearly thirty years ago, faced Mr. Thomas Dixon and his brothers, Messrs. William and James H. Dixon when they took upon themselves the task of weaning the British business man from the habit of dictating to a shorthand writer and persuading him to adopt the then new and revolutionary Dictaphone system.

Shorthand, of course, was very firmly established. It had been in use for a generation. The audacious proposal to substitute a "soul-less" machine for the human secretary came as a shock. Men declared they could never "learn" the machine: girls, not infrequently, dissolved into tears when they were even asked to try it. Not a very promising outlook for a new industry!

The Tide Turns

There is an old saying, "You can't keep a good man down", and it is just as true of a machine. The brothers Dixon had abounding faith in the value of the Dictaphone and persisted in their efforts in spite of all difficulties and discouragement.

Gradually the tide turned. Business men began to realize that the Dictaphone was a practical thing: the typists found that its fancied terrors vanished on closer acquaintance. Starting in London, the Dictaphone Company soon extended its sphere of operations to the Provinces. First a branch office was opened in Manchester: Birmingham followed soon after. To-day the company also has flourishing branches in Liverpool, Glasgow, Leeds, Bristol, Newcastle-on-Tyne, Dublin and Belfast, and the Dictaphone is more and more winning acceptance as an integral part of office mechanization.

In the early days it was something of a success to sell a single set of Dictaphones, but as the value of the system was better recognized installations rapidly expanded. To-day scores of offices are operating forty or fifty Dictaphones, while the largest installation in Europe is probably that of Metropolitan-Vickers, whose "battery" numbers over 300 machines. To-day the Dictaphone is widely used in most Government Departments, by many County and Municipal Authorities in all parts of the country and in thousands of commercial offices, large and small. Professional men—doctors, solicitors and authors, for example—are rapidly adopting the Dictaphone, because it enables them to work at hours when the attendance of a shorthand writer is not practicable.

The mistaken idea that the Dictaphone is helpful only to the man with a large number of letters to dictate has been one of the greatest stumbling-blocks in the way of Dictaphone progress. It is so far from being true that the Dictaphone is used by many important business men who dictate few, if any, letters. These men realize the value of the Dictaphone as a means of controlling business. They "think aloud" to the Dictaphone, consigning to its care their memoranda, instructions, good ideas, plans for the future—all the odds and ends that cross the mind of the busy executive and must be "fixed" immediately if they are not to be forgotten in the daily pressure of work.

"Ever Ready"

Without the Dictaphone matters of this kind are a real problem. If the shorthand writer were called in every time her principal had a few words he wanted to dictate, her ordinary work would never be done.

The alternatives are either to trust to memory or to make notes, and both are liable to break down. With the Dictaphone a few words spoken into the mouthpiece suffice: the matter, whatever it may be, is "documented". Very soon it is typed and then is safe from either forgetfulness or neglect. Many Dictaphone users declare that while for actual letter dictation the Dictaphone is valuable, it is simply invaluable in the capacity it gives for the speedy handling of business details.

In the "ever-readiness" of the Dictaphone lies its strongest appeal, and it is not easy to realize without actual experience the immense advantage of being able to dictate at any moment without calling in the shorthand writer. The amount of delay this saves is almost incredible until an actual test is made.

The growing popularity of the Dictaphone system in commercial work has, of course, been very materially assisted by improvements in the Dictaphone itself. As many old users will remember, it is very different from the crude instruments of twenty or twenty-five years ago. The recording of sound has become a fine art, and in the modern Dictaphone the voice of the person dictating is reproduced so naturally that it is literally true to say that in most cases the typist can transcribe as easily and swiftly as she could from actual personal dictation. Dictaphone dictation to-day is just as easy as talking through the telephone.

Every business man owes it to himself to learn whether and how the Dictaphone will help him. A practical test costs nothing. Write to-day for full details to:

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No. 9

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SEPTEMBER, 1938

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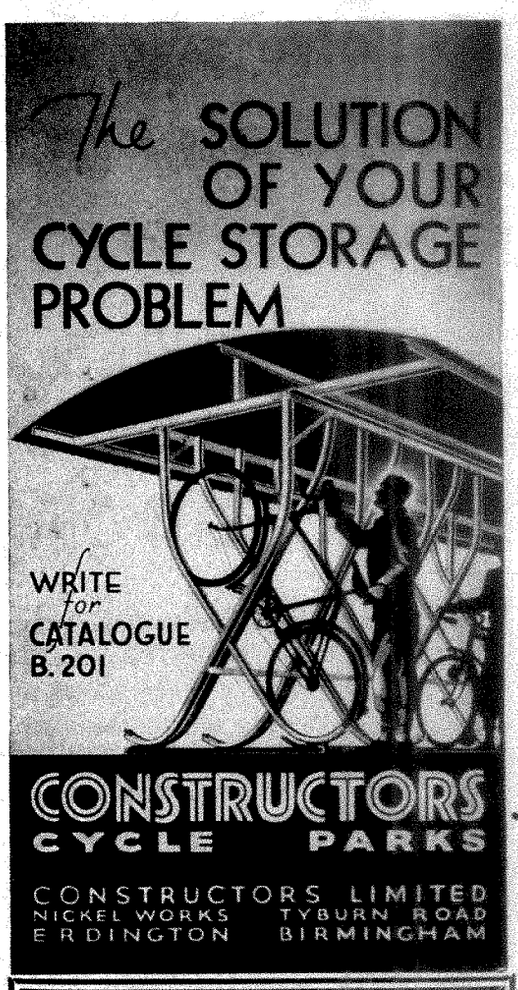

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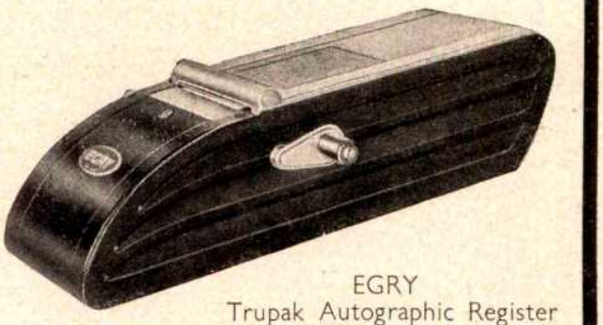

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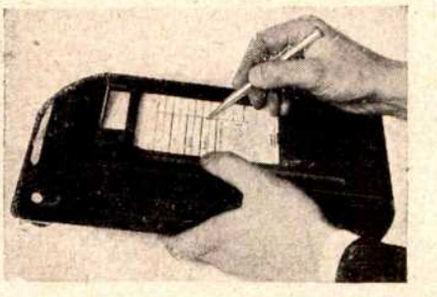

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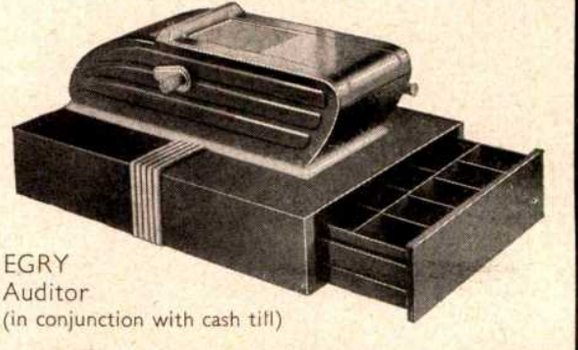

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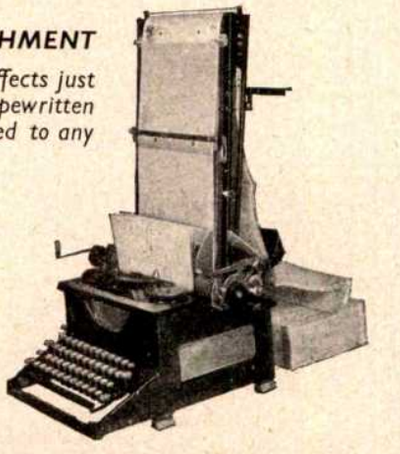

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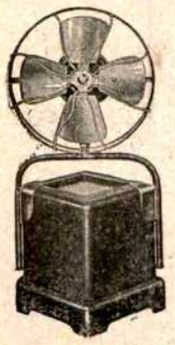

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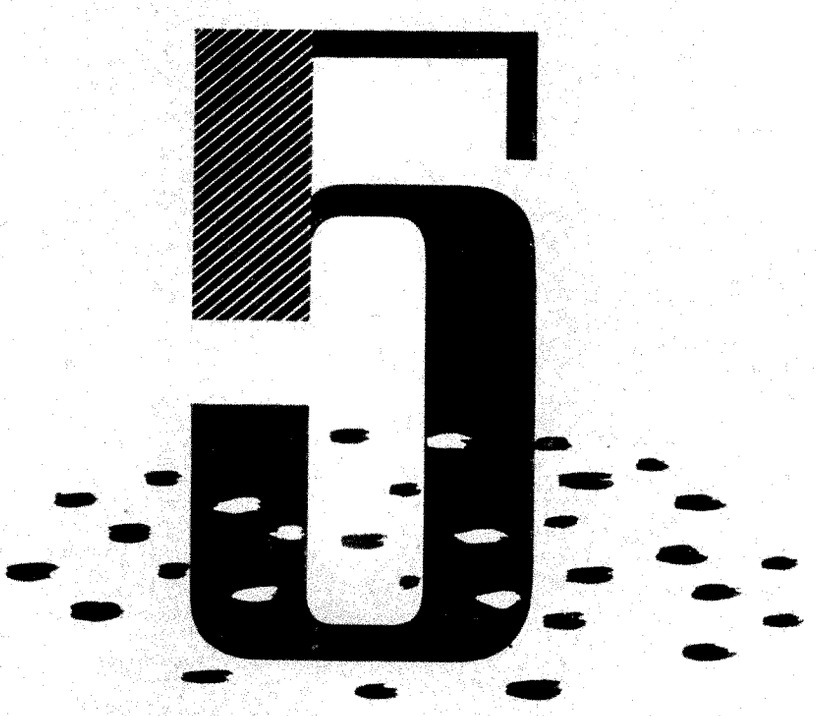

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BUSINESS
MANAGEMENT CONTROL POLICY

Getting Things Done . . .

THE big successes in business go to those who have a vital quality about them that is generally the very last thing to be noted by the casual observer.

It is not education, nor social prestige, nor even experience in the particular business in question.

It is . . . *the ability to get things done.*

This peculiar quality, this "gift" if you like, is the great thing that you will find outstanding in the analysis of almost any really successful executive's make-up.

Of course there are exceptions. Matrimonial judgment, for example, has not been without its influence in establishing the ranks of executive top-liners. A certain quality, naturally, is required to get that sort of thing done but the technique is rather apart from what is implied by our title.

Too Many Good, OLD Ideas Go Begging

Business concerns pay generously for new ideas and for executives who can produce them because good, new ideas can increase profits.

Sales executives particularly are expected to originate new ideas for improving distribution and sales methods, and too often, when sales are lagging, are replaced by new men in the hope that the new-comers will contribute startling new ideas to restore profits.

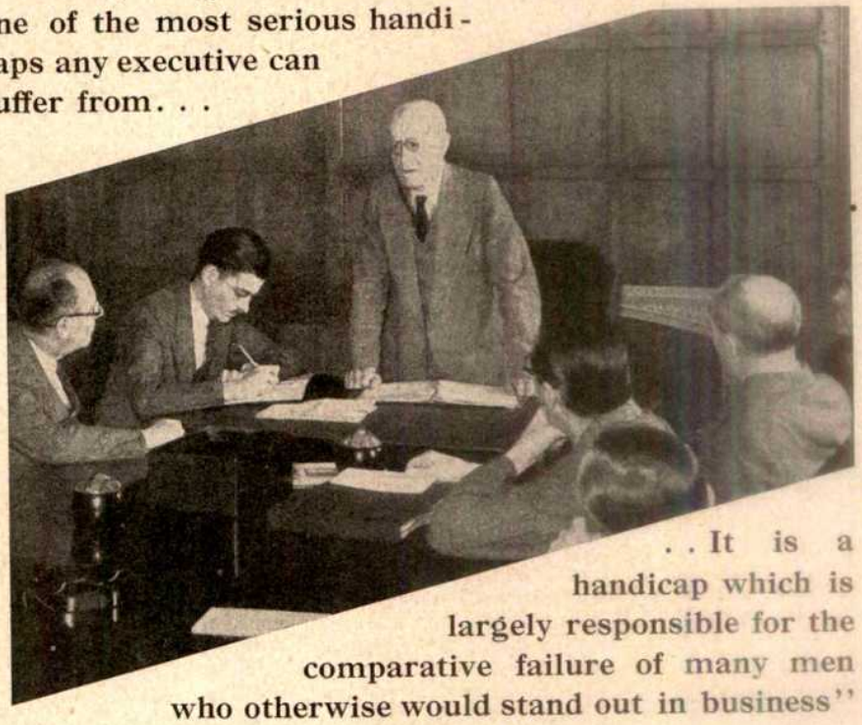
Because new ideas are so far-reaching and profitable business has rather naturally come to value them above everything else, tending as a result to lose sight of two vitally important facts:

(1) That a new idea, no matter how good, is worthless unless executives can make it work;

(2) That there are scores of good *old* ideas which would be equally profitable if they were made to work effectively.

All but a relative handful of business executives are unable to get many of their existing ideas, policies and instructions properly carried out by subordinates.

"Inability to get instructions carried right through is one of the most serious handicaps any executive can suffer from. . .



. . It is a handicap which is largely responsible for the comparative failure of many men who otherwise would stand out in business"

Thus, many organizations which are searching desperately for new ideas have the answer already at hand in the form of old ideas that are being disregarded. And some of the new ideas, followed up probably because of their novelty appeal, fail to turn out as well as expected, so they too are dropped.

WHY Instructions Do Not Get Carried Out

It becomes essential, then, to determine why it is that so many executives have trouble in getting their instructions followed out.

In his book *Getting Things Done In Business*,* E. B. Wilson says that, on analysis, the underlying reason goes back to one of three causes:

(1) Some executives do not know that their policies and instructions are disregarded. They take too much for granted;

(2) Others think nothing can be done about it, so they do not worry very much over getting better results;

(3) The rest do not know what to do about it.

Factory workers, as a rule, are much better at carrying out instructions than are the average subordinate executives.

Instructions are always better observed on regular, standardized jobs requiring little judgment than on jobs that depend more on the individual's own initiative.

The photographic illustration on our front cover is reproduced by courtesy of The Edison Swan Electric Co., Ltd.

*McGraw-Hill.

Following the factory worker there is always immediate and visible evidence of his doing his work, and on top of that is always the foreman whose sole job it is to watch and check this evidence.

It is very different with the subordinate executive. He is given an instruction: its terms are much less precise than those issued to the factory worker; his expected performance is left largely to his own judgment and initiative; he has no policeman on his tail; the "evidence" of his carrying out the instruction may not be expected for some time, and even then it may not be very tangible.

Look Out For This Trap

In this lapse of time, therefore, the circumstances that prompted the issue of the instruction and, indeed, the very instruction itself, may recede into the background and the whole thing become mentally transformed from a major factor into something that "does not matter very much after all."

Once this sort of practice is allowed to become established the executive is lost.

Inability to get instructions carried out is one of the most serious handicaps any executive can suffer from and is largely responsible for the comparative failure of many men who otherwise would stand out in business.

But getting instructions carried out calls for leadership of a high order. Realizing this, some executives have despaired of success because of the mistaken idea that leadership ability is a characteristic possessed by a lucky few.

The belief that leaders are born and not made is just as ridiculous as the idea that salesmen must be born with an instinct for selling to be effective at that work.

Leading and selling are both arts that anyone can learn.

Mr. Wilson declares that although some leaders are successful because they have some one trait or characteristic to a high degree, leadership as a general rule requires close observance of a number of principles.

Analysis of leadership and careful observation of various leaders and executives show that the leadership function as a whole is somewhat intricate and involved, but that most of the individual steps are relatively easy to grasp and master.

The more of the principles a leader observes the more successful he will be in getting plans and policies carried out. The more of them he disregards, the less success he will have.

While the sort of leadership needed to get things done is by no means inflexible, disregard of any of the major steps will certainly jeopardize results.

Before going further into the technique of leadership the executive must first consider two questions:

(1) What are the *real* reasons why subordinates fail to carry out instructions completely?

(2) What are the relative merits of the two general methods of getting results—driving and leading?

These questions must be answered before it is possible to appreciate the importance of the technique required to get satisfactory performance on instructions.

Why is it that subordinate executives and other employees who work without close supervision will fail on instructions and policies when, by so doing, they risk losing their jobs?

Executives who have studied this question agree that there are three explanations for it:

(1) Either they do not know exactly *what* they are expected to do, or

(2) They do not know just *how* to do the job in question, or

(3) They do not *want* to do the job.

The first two reasons are easily dealt with. All that needs to be done is to repeat the instructions more clearly, or to give some explanation as to the method of procedure.

The third reason is more difficult to cope with.

Not wanting to do a job may mean *preferring* not to do it, or being actually *opposed* to doing it. Specifically, then, the reasons for not wanting to do a job can be divided into two groups:

(1) Insufficient desire;

(2) Positive dislike of the instruction.

Overcoming the lack of desire is less difficult than removing actual dislike. But it is not easy. Many subordinates are lazy; they take the lines of least resistance whenever possible. Many men have too little ambition; they wish they could get ahead but the desire is not strong enough to stimulate them to work enthusiastically on jobs that do not appeal to them.

More on this Subject to Follow

See last two paragraphs on this page

In conversation such men would indignantly deny these charges. But their attitude proves the point.

Getting results becomes a much more complicated task, however, if subordinates actively dislike the instructions. The task is especially difficult when the instructions mean more work, as they usually do. Most employees feel that they are already overworked.

Many subordinates dislike instructions in general because they have found from past experience that too many new instructions or policies are unsound. They object also because instructions are frequently introduced and then disregarded by the management, or else are contradicted within a short time by still further instructions.

This sort of policy, too, gets the management into disrepute since overprolific instructions are bound to involve the responsible heads in commitments to the staff that they cannot possibly carry out.

None of these explanations, however, gets to the true source of the problem. We still have to determine why employees will, at the risk of their jobs, disregard instructions they do not like.

The answer is that a job is not nearly so important in the eyes of the average subordinate as it might be.

Some executives have the mistaken idea that their subordinates as a group are highly pleased and well satisfied with their jobs. But invariably they are quite wrong. They are lucky if they have one or two individuals who are entirely, or nearly, satisfied with their jobs, let alone a whole group.

This Factor MUST be Considered

There is a dominant desire in every subordinate to feel important, to feel that he counts for something, that his ideas and his feelings are really worth consideration. Most men want to have their own way, as a means of establishing their importance, and are unwilling to do things that they consider wrong or unnecessary. They want to feel that their "rights" are being observed.

When a new instruction appears unreasonable or clashes with the ideas of the subordinate he feels that his interests are being violated.

If the instruction is not explained, and he cannot explain it satisfactorily to himself, he feels his rights are being disregarded and hence that he is considered unimportant. For if he were regarded as important it is reasonable to expect that the executive would go to the trouble of explaining the instruction and talking it over with him. If he objects to an instruction and is overruled *without being convinced* he gets the impression that his ideas and opinions are not valued.

And because his idea to "count for something" often means more than his job to the aspiring subordinate he risks his job rather than follow out instructions which make him feel unimportant.

Recognition of this factor is essential to getting results with instructions. There are several other explanations for this regrettable attitude subordinates take towards instructions, but desire to feel important is unquestionably one of the most significant of all.

Mr. Wilson, in his book, comes now to the two chief general methods of getting instructions carried out:

(1) Driving subordinates to see instructions right through;

(2) Leading them, so that they are willing to observe instructions.

The comparative merits of these two methods will be reviewed in next month's issue. In the meantime BUSINESS is conducting a number of personal interviews on this subject with the heads of well-known, progressive firms. From these interviews a series of articles will be published showing specifically how these leaders *get things done* in their own organizations.

These articles will be entirely free from theory; they will show, as clearly as possible, the actual day-to-day routine of busy executives who get instructions carried through without their being involved, personally, in the detail of continuous follow-up.

The Essence of This Business is . . .

Modern Stock Control

Mr. A. E. Drew

we have introduced a system that has

1. **Solved the problem of Obsolescence, thus removing one of the greatest dangers to the type of stock which we carry.**
2. **Placed buying on an automatic basis, thus eliminating the fallibility of the human element.**
3. **Made possible a general saving of labour by introducing labour-interchangeability.**
4. **Enabled the control point at head office to know, by noon each day, the exact stock position (as at 6 p.m. the previous evening) of a number of Provincial depots. Previously this took at the very least 4 days.**
5. **Reduced by 50 per cent the number of stock clerks necessary.**

By A. E. DREW

Globe and Simpson Ltd., Sheffield

Automobile, Electrical, and Fuel Feed Service Engineers

Editor's Note

EXPANSION of this distributive business demanded a system of control the complete reverse of the type that was sufficient to maintain progress during its early growth.

Why a Modern System Was Essential

Before installation of the new system outlined in this article the position was that a number of wholesale depots in various parts of the country practically ran themselves, using the Sheffield headquarters of the organization as a sort of clerical unit and central record-office. Head office was, in fact, "run" by the depots. Depot managers decided their own stocks and requisitioned periodically on head office for what they considered they needed. Head office, in turn, performed the subsidiary function of ordering from manufacturers.

This procedure, of course, put head office in the position of being always dependent on the depots for information regarding the state of sales and the nature and total value of stocks carried.

While such a system might serve a business in its early stages, and when only a small personnel is involved, it is quite unable to cope with big volume or to allow freedom for fast, profitable expansion.

Time-lag, a Big Barrier to Real Control

The fact of vital information being decentralized over a number of widely spaced points, introduced a time-lag which, in itself, completely negatived any idea of close-up control.

The company therefore decided to reverse the position: to make headquarters the focal control point: depot operation to be strictly in accordance with policy and detail laid down for them. The result is the five important benefits outlined in the panel on this page. As Mr. Drew explains in his own words:

THE problem to be discussed concerns an organization distributing a wide variety of lines produced by various manufacturers by means of: (a) its various depots; (b) through the medium of mail order.

Briefly summarized, (a) and (b) constitute the policy of "supply". "Demand" can be considered under two main headings: (1) articles in regular demand (fast-moving); (2) articles in irregular demand (slow-moving).

Obviously, the fast-movers are those articles which must always be available

Fig. 1. Inset along the base is a reproduction of the Visible Strip Index described in the text under 'Headline 2'. This Strip Index is housed in panels on the Rotary Stand shown

and which, therefore, constitute the organization's stock, a stock which is at the same time an asset and a liability.

Its value as an asset needs no explanation. Its value as a liability, however, is the reason for its rigid control if the liability is to be held within bounds and prevented from becoming a dangerously uneconomic factor. This latter point will perhaps be made more clear in paragraph 1 of the examination which follows, of the various aspects of the stock concerned.

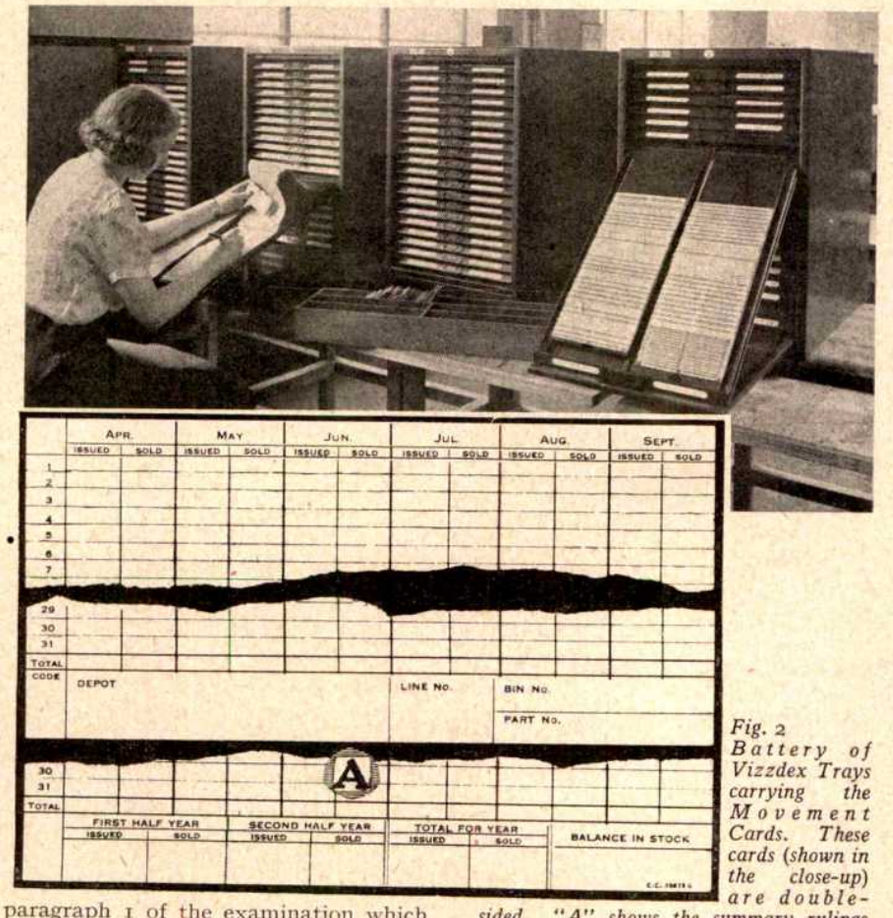


Fig. 2 Battery of Vizzdex Trays carrying the Movement Cards. These cards (shown in the close-up) are double-sided. "A" shows the summary rulings on reverse of the card for end of the year

Four Main Factors of the Problem

1 The organization handles something like 12,000 electrical articles of different shape and design, a high percentage of which have a limited life of usefulness, and eventually become obsolete. It is this question of obsolescence which makes effective control so necessary to the liability factor just referred to.

2 As the articles have their origin *outside* the organization they are, of course, individually identified by a miscellany of numbers and type references given to them by their various manufacturers. It is therefore essential, when they become our stock, that they should be identified by a "regular" code to facilitate distribution.

3 The customers, users of the articles, recognize their requirements by reference to the numbers and types quoted in the manufacturers' lists and order on the organization accordingly.

4 By reason of local demand an article is fast-moving in one or more depots, and slow-moving in others. Distance between these depots may be considerable, rendering the question of inquiry for immediate transfer uneconomical, particularly so if the inquiry should prove fruitless.

The above four aspects constitute the "head-lines" under which the problem has been solved as follows:—

Here is Our Solution of the Problem

HEADLINE 2: Taking each manufacturer in turn, the numerical and type reference under which their articles are marketed were arranged in numerical and alphabetical sequence. To each was added a descriptive word, a bin number and the selling price. This information was then transferred to a system of Visible Strip Index, see Fig. 1, the whole being arranged in panels on a rotary stand—see also Fig. 1.

To avoid confusion with similarity of part numbers used by different manufacturers, index strips of contrasting colours for each manufacturer are used.

HEADLINE 3: When an order is received it is passed over the above index by reference to part number, and the bin number and price added. The bin number forms the "regular" code by which the article is recognized, that is from the stock point of view throughout the organization. In the event of the required part not appearing on the index it is known at once that it is not a stock item and is ordered on the manufacturers as a "special". At the same time, the demand is recorded on a "Record Card", that the frequency of movement may be observed so that it can be converted into a "stock item" when circumstances warrant it.

HEADLINE 1: (a) Each article is given a "Bin No." (see also headline 2) and for each "Bin No." a "Movement Card" is opened. This "Movement Card" (see Fig. 2) is double-sided, each side being divided into six months, the whole constituting a financial year. The left-hand side is numbered from 1 to 31, the maximum number of days in any month. These cards are filed in "Vizzdex Trays"—(see also Fig. 2) in bin number order, a master for the headquarters stores, followed by one for each depot carrying stock of the particular article.

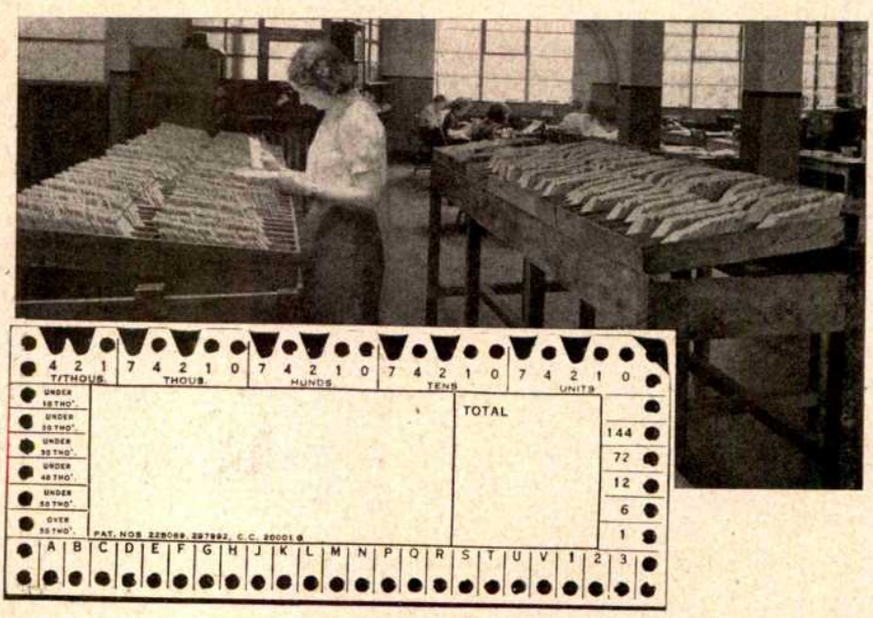


Fig. 3. The stock in each bin is recorded on a Paramount Punched Card; the cards are set up in trays constituting the stock file

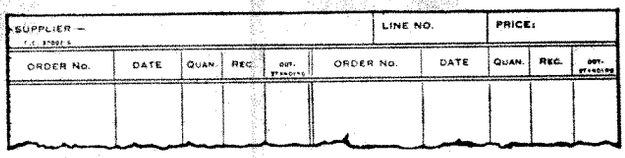


Fig. 4. For headquarters stock the buying 'history card' automatically reveals 'minimum stock' position of lines

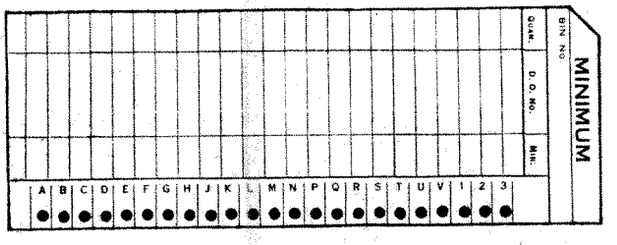


Fig. 5. In depot stock files this type of Minimum card is used in place of the history cards

(b) The stock in each bin is recorded on a "Paramount Card"—(see Fig. 3). As will be seen, this card can be clipped to represent any bin number from 1 to 69,999. The quantity the card represents is clipped on the right-hand side, whilst the depot concerned is recognized by the code along the bottom. These cards are set up in trays constituting a "Stock File" (see also Fig. 3), each bin number group being identified by a separator upon which is printed the bin number.

(c) To avoid a "No Stock" condition arising, the buying "History Card" (Fig. 4) is placed in front of stock cards representing the "Minimum Stock". This means the quantity normally sold during the time taken to obtain fresh supplies from the manufacturers. In depot stock files, a "Minimum Card" (Fig. 5) is used in place of the history card.

To deal with the entire process of an order through the organization is beyond the scope of this consideration. The application of the described stationery to our particular circumstances, however, will be appreciated by a study of the route chart and the elaboration of its various points which will follow.

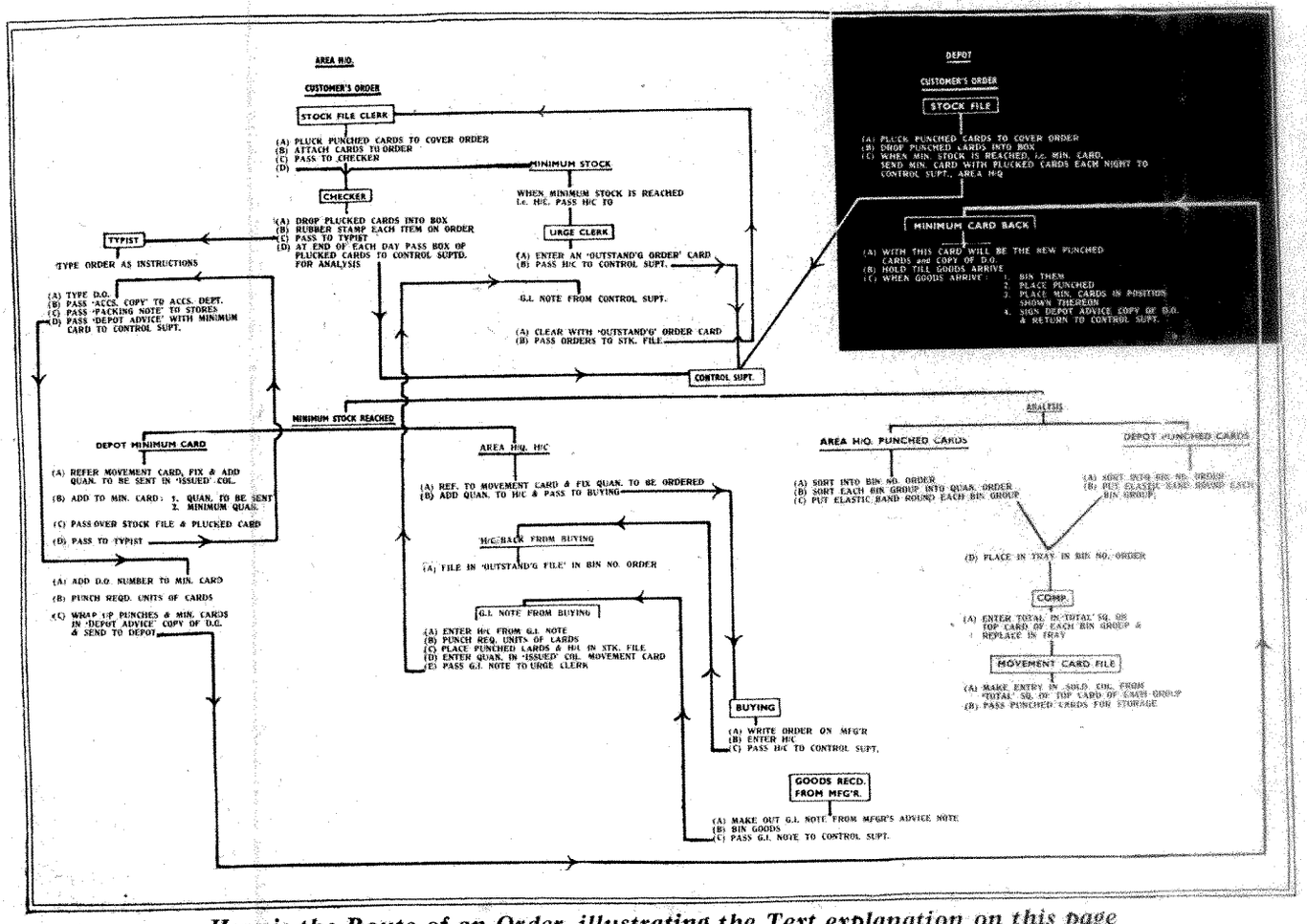
Route of the Order

To follow a customer's order received by a Depot or at the Area Headquarters from the point described under "Headline 3" :—

FUNCTION 1—*Stock File Clerk :* By plucking the punched cards *before* removing the stocks from the bins, the Order Office *know* that the required articles *are* available without reference to the stores. The value of this is threefold : (1) a telephone enquiry can be settled immediately (customers are not kept waiting on the phone) ; (2) goods can be reserved for delivery at a later day, by extracting cards from the stock file, and without parcelling the goods at once and storing the parcel, thus saving labour and additional storage space ; (3) it is definite that an order sent to the stores *can* be executed. Paper is *never* sent back from the Stores, an obvious saving of clerical labour.

FUNCTION 2—*Checker :* The object of rubber stamping each item, incidentally with the letter "S", tells the typist that the order has been over the Stock File. The typist having reproduced the customer's order on the organization's order document (in triplicate) passes one copy, "Packing Note" to the stores where the labour of assembling the order consists merely of taking "x" quantity from bin number "so-and-so" (unskilled female labour). A second copy, "Customer's Advice", is posted to the customer as an acknowledgment, and the third copy, "Accounts" is passed for invoicing.

FUNCTION 3—*Analysis :* First thing each morning all cards plucked the previous day are sorted into bin number order. This sorting is done by needles and is very simple and rapid. Each bin group is totalled on a comptometer and the result transferred to the Movement Card. Three girls sort and comp 5,000 punched cards and enter the



Here is the Route of an Order, illustrating the Text explanation on this page

results on Movement Cards in 3 hours.

By this means the stock position of every article in the organization at 6 p.m. is known by noon the following day.

By the elementary handwritten method of stock control three girls were required to maintain the records of an Area Headquarters only, and one girl in each depot. By the new method the saving of labour on this function alone is considerable, and in addition, the potential error factor is reduced to a negligible percentage.

FUNCTION 4 — *Minimum Stock Reached :* As will be seen in the case of :

(*a*) *The Area Headquarters :* The History Card is thrown out on the buyer who, by reference to the Movement Cards, is able to place an order on the manufacturer for a quantity sufficient to meet the needs of the organization or, alternatively, to call in stock from a depot where such stock has become slow-moving with that depot.

The great value of this possibility needs no emphasis. As an aside it is of course possible that a manufacturer will not be able to supply requirements at once, in which case the minimum stock will become exhausted and orders held up on account of a "No Stock" position. It is to cater for this event that an "Outstanding Order Card" is opened by the Urge Clerk, upon which may be recorded any such outstanding orders.

(b) *The Depot :* The Minimum Card is returned to the Control Superintendent at the area headquarters. This cuts out the need for depots to write out orders and file carbon copies, etc. (Saving in stationery and clerical labour.)

The chart shows that this minimum card is dealt with in much the same way as a customer's order, and as will be seen in Fig. 5, all the information required by the depot is shown thereon by the Control Superintendent. Here again a substantial saving in "letter writing" is effected. The initial "D.O." refers to a "Depot Order" which is a triplicate set similar to the one already described.

FUNCTION 5—*Goods received from Manufacturers :* There is not much that can be said to elaborate upon the chart except, perhaps, to connect up with the Movement Card again and round off with a brief description of its complete function.

The quantity received from manufacturers is entered in the "Issued" column. This means goods issued to the stores by the Control Department, for although the goods are, in fact, in the bins, they are not in stock until the punched cards representing their quantity value are in the stock file.

At the end of each month the "Issued" and "Sold" columns are comped and totals entered at the foot. At the end of the first half-year these totals are comped and entered in the appropriate space on the reverse side of the card. At the end of the second half-year, likewise, plus the addition of the two issued and sold totals, the latter being subtracted from the former, producing the balance in stock.

The System Needs No Costly Equipment

The system described makes no claim to be a complete "Stock Control System" but it does provide a very efficient "Movement Control System".

To achieve the former it would be necessary to produce a movement and sales analysis at one and the same time, and as a percentage of the movement consists of a transfer of stock, *i.e.*, from area headquarters to depots, the cost of equipment to segregate these transfers from sales would be considerable, and in this case, it has been proved very much cheaper to produce a sales analysis separately, *i.e.*, from invoices.

This point is well worth consideration when an installation is contemplated.

The whole process has been designed to give the utmost simplicity to every function and additionally to enable the scope of the application to be extended or abbreviated without alteration, even in the slightest degree, to the general principles.

Experience has shown that labour may be readily interchanged. This eliminates to a great extent the boredom associated with functionized work, and which too often is the reason for a breakdown in a system.

The system equipment described in this article is the product of The Copeland-Chatterson Co., Ltd.—ED.

---

75 POINTS that Make for *Successful Management*

Gathered during interviews with the top executives of more than 50 progressive firms in many different industries

(*Continued from last month's issue, page* 21)

13. Let your men be capable and acknowledged to be; but not so conscious of it that they are opinionated snobs.

o

14. Inspire your organization with the spirit that you are all going ahead.

o

15. Insist that each worker maintain a cheerful, kindly feeling to his fellow worker as an individual.

o

16. Impart a feeling that it is to everybody's general interest to turn out nothing but good work and that good work will go farthest in the long run.

o

17. Impart a confidence that good work will be fairly rewarded.

o

18. Maintain a definite *esprit de corps* between the executives and employees—not patronizing on the one hand, and still not servile on the other.

o

19. Let the individual exercise freely his own initiative as long as he does not run wild. Do not check him up too often in his work.

o

20. Establish in your organization a definite atmosphere of cheeriness and good-nature as between individuals, being careful that it does not degenerate to licence.

o

21. Get your people to like and trust the "boss" to whom he or she is responsible.

o

22. Look out for office politics. Keep everybody happily busy working out their own responsibilities. If you find any subterranean work in any direction, quash it.

o

23. Do not tolerate tale bearing, at the same time invite frank criticism; but it must be genuine. Look out for an "edge" and kill it by discussion.

o

24. Get over to your people a real appreciation that your house is highly thought of outside—a challenge to good performance.

o

25. Look out for the "credit grabber". He can be shown, if he is a good man, that "good wine needs no bush" and that he who does good work consistently need not fear that he will not get the credit that is due to him.

o

26. It has never been solved yet why it takes some men more money to travel than it does others. But it does. Accept the fact. Bear in mind that no matter what the expense turned in, neither one could really make the expense account balance—it is always against the individual.

o

27. Quietly instil into everyone the realization that the element of time is important if he would get anywhere, that solid progress is only made by sticking to the job, that nothing is really worth while unless it has cost real effort.

o

28. While having a confidence in present organization strength, let there be a frank acknowledgment of room for improvement, individually and collectively.

These notes will be continued in succeeding issues. It is suggested that each instalment be clipped out and filed until the whole 75 Points have been accumulated. The complete collection will be found to crystallize the main points in the whole range of management as practised by successful firms.—ED.

This Small Firm . . .

Earns an Extra £3,000 a Year

Taking Full Discounts

Prompt payments for full discounts is a piece of managerial policy easy to organize and highly profitable to follow. Small as well as large businesses can do it. Firms without the liquid resources for such a scheme can _borrow_ for it . . . and still make extra profits says

P. G. D. COURTENAY

who quotes examples from practical experience

IN many firms the amount of income that may be earned by taking available cash discounts is not given the close thought that is granted to other less remunerative sources of profit. The big buyer is usually well aware of this possibility and uses his purchasing power to obtain extra discounts from suppliers. The smaller concern, however, is not always alive to his chances and often neglects to secure the benefits which do accrue from prompt payments.

When it is realized that 1 per cent on a purchasing turnover of £120,000 a year amounts to £1,200 (equal to 2.4 per cent on a capital of £50,000) the benefits of getting every possible discount are obvious. In fact, in a great many cases, a company's preference dividend can be covered by taking full discounts for prompt cash.

A company with adequate liquid funds is naturally in a better position to pursue a cash discount policy than is a concern with little or no margin over current needs. But it often pays to borrow money rather than miss discounts.

How Borrowing Helps Make the Profit

Suppose the purchases from one supplier are in the region of, say, £1,200 a month and that a cash discount of 2½ per cent is allowed for payment on the 10th of the month following delivery. Discount of £30 a month can be earned. If it is possible to get 3½ per cent discount for weekly payments then the monthly discount is £42, a gain of £12 or £144 per annum.

Against the assumed profit of £144 must be charged loss of interest occasioned by reduction in the bank balance. While the weekly reduction in the bank balance, together with weekly interest can be calculated, there is no need to undertake such a laborious task when it is obvious that a permanent reduction in the bank balance of £800-£1,000 would arise as a result of weekly payments. As balances on current account at the present time receive an average interest of ¾ per cent, the loss of bank interest would not be more than £7 10s. in a year. A further £1 a year would more than cover the cost of extra cheque and postage stamps, so that the total expense could be considered as £9 maximum.

The *additional* profit, therefore, is £135 for a full year on one account with an annual turnover of £14,400, the total discount on the account being £504 per annum. The possibilities are so clearly marked that further comment appears superfluous.

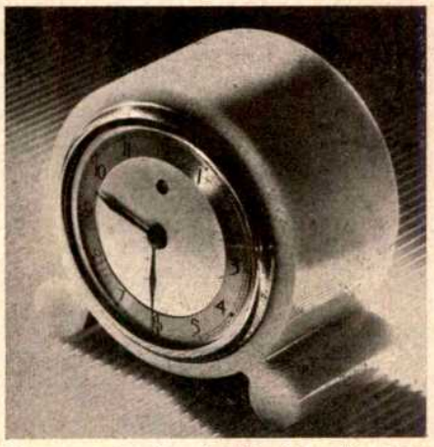
This is not theory, the figures are taken from the books of a company which pursues strict policy of obtaining the utmost by way of discount. A company with a capital of £60,000, with which I am intimately connected, earns in discount the cash sum of £3,000 a year, of which a large part represents additional discounts granted for immediate payments.

Naturally, only companies with ample liquid resources can obtain maximum benefits from additional discounts, but it must not be overlooked that lack of funds does not necessarily prevent a concern from earning cash discounts, providing it can borrow money at a reasonable rate of interest.

In most cases where a discount of 2½ per cent is allowed for payment in one month the account is *net* after two, or at the most, three months. Where an account must be settled net within three months it is advisable to borrow money to enable payment to be made in time to get any discount offered.

Assume again a monthly account of £1,200; at the end of three months there is owing the sum of £3,600, of which £1,200 is due on net terms. If £2,400 could be borrowed at 5 per cent then the whole of the account could be liquidated, discount, of course, being allowed on £1,200 only, the balance being paid net. Each month following, however, the full discount on the monthly payments of £1,200 could be taken, which at 2½ per cent would realize £30, or £360 per annum. Against the discount earned there must be set interest for the loan of £2,400, which at 5 per cent is £120 per annum. Therefore, after paying all charges for accommodation there is a net gain of £240 yearly.

These two examples are sufficient to illustrate the possibilities that exist in carrying out a proper discount policy. The question of discounts in relation to turnover, cash resources and interest charges should be thoroughly investigated, and a definite policy formulated. Where there exists no shortage of liquid funds, suppliers should be approached with a view to obtaining *extra* discount for prompt payment. It may be found that monthly settlements are being made on the basis of 2½ per cent when the suppliers would allow 3½ or 3¾ per cent for prompt cash if they were approached on the matter.



New ways of making familiar lines often open up fresh sales opportunities. The Temco Synchronous Electric clock illustrated here has a Catalin case, a plastic used for the first time in clock mouldings. It adds a new and interesting sales point to the company's lines

By No Means Least Advantage: Increased Prestige

It is important to remember, too, that a reputation for prompt payment not only adds to the prestige of a company but brings in its train other concrete advantages over competitors. Suppliers prefer to deal with a concern whose payments are regular and prompt, and will often quote finer prices and better deliveries and other services than those offered to other buyers. Extra profits may accrue quite apart from those arising directly out of discounts, and in these days of intense competition no one can afford to neglect any opportunity of increasing the profitability of a business.

Pension Schemes are Not for *Big Staffs Only*

ONE employee has been the nucleus of many schemes that have developed highly successfully in small firms.

By 'BUSINESS' INSURANCE CONSULTANT

IN any properly devised pension scheme there are tangible advantages both to employers and employee. If any confirmation of this claim is wanted one has only to note the rapidly increasing number of firms, large and small, and in all trades, who are inaugurating these schemes among their staffs.

Looked at from one point of view—a selfish one perhaps—a pension scheme does have a steadying influence on the staff. It tends to reduce labour turnover by keeping work-people happier and feeling more secure in their job. And, selfish though it may be, this consideration, for employers, is a very important one.

Then there is the moral obligation of employers to their staff. This is a very real factor. By economically meeting this need the pension scheme is fast becoming recognized as a natural function of present-day management.

In any pension scheme these two factors are the main objectives; anything else that may be incorporated can be regarded as 'trimmings'. But while the principles remain the same the ways in which the scheme can be carried out vary considerably. It must be borne in mind, however, that these schemes are applicable only to permanent staffs. They are not suitable for casual labour.

One of the most important considerations is naturally that of cost. Benefits obtained are in direct proportion to the amount which can be paid, either to an Insurance Company or, in the case of a large firm, to an internal fund. Some employers give a large contribution towards such a scheme and the benefits are in proportion. Others can provide only a small one, but that does not prevent the small employer from starting a scheme. Schemes have been inaugurated for one employee to begin with.

This Is The Best Type Of Scheme

It is generally accepted that the best type of scheme is one to which both sides are contributory; the principle is far better than for the employer to cover the whole cost of the scheme. When they are making a contribution themselves employees feel that they have some rights which are guaranteed to them, and it also materially assists the employer with the cost of the scheme. Many employees, unless encouraged in some way, will never save anything.

The most effective scheme is one based on salary and service. Every man receives a pension in relation to the salary he is earning and the number of years' service he has given at the time of retirement. While not costly, however, this type of scheme may be outside the scope of small employers. The cost to the employer may be about 6 per cent of the salary roll.

The age distribution of the staff has a direct bearing on any scheme and the figures given below are based on an average age distribution. It is a generally accepted fact that you cannot ask employees to contribute more than 5 per cent of their salaries and even that percentage can only be applied to the higher paid people. A man earning £3-£4 per week already has practically the whole of his income budgeted for and cannot afford to make a large contribution.

The employer, himself, has to decide what he can afford. In these schemes, particularly for small employers, the cost to the employer himself is a constant figure, provided that more employees are not brought into the scheme or the rates of salary increased. There would also be a considerable decrease in the cost after about ten or fifteen years as the older men, who are always the biggest liability on the scheme, pass out of it.

Here Are Other Effective Plans

Another way is for the employer to say he will contribute a fixed sum, having regard to the man's position in the firm or his salary, and the benefits will then be according to the man's age at the time of entry. For example: a contribution of 2s. per week (1s. from the employer and 1s. from the employee) may produce £300 in the case of a man aged 25 at time of entry; £200 in the case of a man aged 35; £100 for a man aged 45. It is normally assumed that pensionable age is 65, although some employers consider that too high. To reduce the pensionable age, however, by 5 years would necessitate increasing the employers' expenses by nearly 50 per cent.

Another form of scheme is one where the employer undertakes to give each man a sum of 1, 1½, 2 or 3 times his salary as a gift; to add to this there will be the sum accumulated by the employees' own contributions. The total amount can then be applied to purchasing a pension.

An additional advantage from the employers' point of view in these schemes is that they are approved by the Inland Revenue Authorities for relief of Income Tax purposes and the employer can obtain relief at the full standard rate of 5s. 6d. in £.

The control of the scheme is always in the hands of the employers, but the contributions paid by the employees always, by law, remains their own property. If an employee leaves the firm he is entitled to the benefits of the whole of the contributions he has paid himself, but the employers' share can be retained or the whole or part of it paid over as generosity and as the circumstances of the case warrant. If the firm goes into liquidation or for any other reason the scheme has to be closed, the whole contributions will be divided between the contributing employees and cannot be claimed by creditors.

Before committing himself to any definite scheme, an employer will naturally want to know what its cost is likely to be. I shall be pleased to arrange for an appropriate scheme to be submitted and an approximate quotation as to cost given if any employer will address his inquiry to me: c/o BUSINESS, 6 Carmelite Street, London, E.C.4.

But *WHY* a Pension Scheme, Anyway?

MANY employers still ask this question. Many, too, believe that the pension scheme idea is purely charity. If, by "charity", is meant a humanitarian factor, then yes, the pension scheme is largely that.

But industry to-day is being built on humanitarian factors. Business is no longer just a matter of labour and wages. The whole trend of management, in organizations of every size and type, is towards the better development of human relationships between employers and employed.

The pension scheme offers tangible advantages to both sides because it helps tremendously in the development of that intelligently co-operative spirit which it is management's prime duty to establish.

As a factor of policy, therefore, no firm can afford to neglect examining what a pension scheme would do for its organization to-day.

"It's The 'Ad-*SUPPORT*' *Plans* that pull 75% of the Sales"

Says This Manufacturer

who discusses his experience in running a marketing campaign on a limited appropriation

MONEY wasted: that sums up the advertising efforts of many small and medium size manufacturers. Why? Because their advertising campaigns are not supported from start to finish with sound sales promotion or merchandising methods. They lack the intelligent "Follow Through". The advertising campaign will not do 90 per cent of the work of selling. Experience, common-sense, market research and other informative data show that 75 per cent of sales in a successful campaign is the outcome of methods carefully planned to *support* the press campaign.

Don't Fall Into This Too Sanguine Attitude

Let us get personal. Are *you* securing full value for your money spent on general advertising—newspapers, magazines, periodical, trade press, poster, radio, etc? Do you sit back and tell your salesmen to go ahead and book orders just because you have a campaign running? Do you expect, when press copy or radio patter is given the final O.K., that your big job is to organize production to cope with the rush? And have you ever been disappointed? If you rely on advertising to do anything like the complete selling job, I wager you have been worried at the cost per sale shown in final figures —if you have got any final figures!

Some supporting methods are too elementary to warrant being dealt with here. Showcards, display material, leaflets, folders, booklets, etc., are common supports to a campaign. Everyone knows about them. Some executives even take pride in the quantity of money they spend on such effort. Because sales are increased they think their whole scheme is really successful. They overlook the point that a less expensive effort of higher quality might have resulted in greater sales volume.

By "higher quality" I mean more careful planning of the whole scheme, the use of new methods, more logical tie-ups between the advertising and the other parts of the general campaign. Your total marketing scheme should not follow routine form, nor rely on sheer weight of expenditure for success. With an appropriation of £10,000 to £20,000 that is an "ostrich" policy. Indeed, the smaller the amount you have to spend, the more unwise you are to follow the common rut. To be *different* is one essential in successful marketing with limited means.

These Ideas May Make You Think Profitably

No doubt the answer to these views is: Easy to say, hard to do. That may be true, but it *can* be done. For proof, here are a few examples of policies and methods at work. Look them over. You may be able to adapt some of the ideas for your own business or get a lead that will set you thinking along the right line.

To get products mentioned frequently in the home is a very important achievement for manufacturers of consumer-type goods. Havinden's 'Let's Go Shopping' game, illustrated here, is a first-rate example of clever support for general advertising. Over 100,000 of these games have already been distributed

Take the case of Shirriff's "Lushus" jellies, marketed in this country by G. Havinden Sales organization. Here is a product being sold in one of the most competitive markets in which long-established firms of international reputation are strongly entrenched. Yet, with less expenditure than that of three big competitors, "Lushus" jellies have gained national distribution and sales comparable with other leading brands.

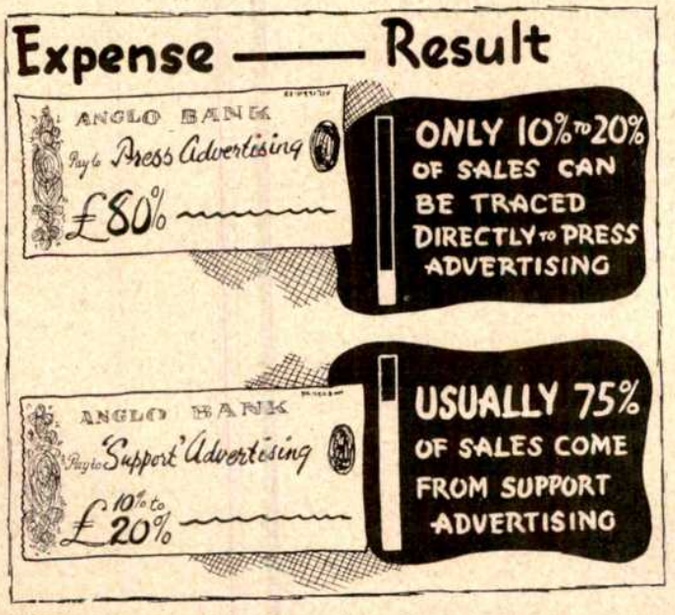
First steps in this success are found in the Havinden Company's policy of widening the jelly market rather than competing for customers of rival brands.

Heavy competition has been sidestepped this way. Methods used include suggestions for new kinds of jelly dishes; sampling schemes in departmental stores, in grocers' shops, at exhibitions; inviting the housewife who is a small or non-user of jellies to try this brand.

'Support' Plans That Have Proved Effective

Now "Lushus" jellies have been advertised fairly extensively in the national Press. Last year the total advertising appropriation was considerable. But Havinden executives found that, while this national campaign absorbed the major portion of advertising funds, it produced by itself nothing like that percentage of the total of increased sales. Experience showed that *schemes supporting the campaign* were responsible for over half the sales gained.

Backing up the radio advertising is



For the manufacturer with a small advertising appropriation it is difficult to produce an effective press campaign. Sales that can be traced directly to such advertising often form only 10 to 20 per cent of total sales, while any amount up to 80 per cent of the total appropriation is spent on press. With 'support' advertising, the small manufacturer usually finds the figures are reversed. These results indicate that marketing schemes launched on limited money should rely largely on well planned advertising support methods

the campaign in women's magazines. Page and half-page spaces are being taken. While circulations of the magazines are but a fraction of those of leading dailies, they are selected circulations. They go to women, chief buyers of jellies.

Support for the radio advertising is far reaching. For example, programmes are advertised in *Radio Pictorial*, and a series of editorial feature articles on Big Bill Campbell have been published by the magazine. These features were valuable support. Not only did they naturally reach the public but Havinden's mailed 5,000 of each of two issues to retailers.

Here, too, was another clever support idea, the production of a "newspaper" called *Lushus News*. Now a good many manufacturers, big retailers, and so on, produce "newspapers", but this particular effort was just sufficiently different to be out-of-the-ordinary class. It did two jobs in one: (1) told retailers all they needed to know about the general advertising plans; (2) contained reading matter of interest to the general public.

For instance, the front page carried the story of Big Bill Campbell's broadcasts and a table giving dates, days, hours and wavelengths. Readers were invited to cut out the table and keep it for reference. On one of the inside pages was splashed an illustration of "Lushus" cut-outs and display material as used by retailers. This carried a headline: "When you sees this window . . . folks, go right in and buy your 'Lushus' jellies!" Notice the style? It is Campbell talking to the reader. That style is used throughout.

A copy of the paper was enclosed with each *Radio Pictorial* sent to the dealer, together with a children's game called "Let's Go Shopping" (more about this in a moment) and an order card. This card was filled up by dealers who wished to order extra stocks in view of the campaign or wanted 50 copies of "Lushus News" and/or copies of the game. Orders had to be placed by 31st May to qualify for a special 5 per cent discount, an inducement which got the scheme working in time to give full support to the general campaign.

Not a Link Missing in This 'Tie-up'

There you have a first-rate support scheme. The dealer could see at a glance what an interesting, lively advertising campaign was about to start and could prepare himself to cash in on it; the public was brought into the scheme in an intimate way; the advertising message went into the home. Success of the plan can be judged on the fact that over 300,000 copies of "Lushus News" have been distributed through retailers. No waste circulation, either. Remember, dealers were allowed to order only 50 copies at a time. They ordered copies—and new stocks of jellies and other goods marketed by the firm. Clever support methods assured the advertising campaign of success.

The policy behind the game "Let's Go Shopping" is to get the various food products handled by the firm talked about in the home. The passing interest of an advertisement is not enough for this. The idea of the game came at a conference and was planned in detail with a firm specializing in this type of work. The players, in the course of their "shopping", deal with "Honeybee Honey", "Bantam Coffee", "King Cole" Mustard, "Lushus" jellies and other products handled by Havinden's. The game is interesting and amusing yet, at the same time, it gets constant attention in an unassuming manner on the products mentioned. Already more than 100,000 of these games have been distributed.

For

News About Markets

Trend of Business this Month

Trade Activity Indices

turn to Page 66

Let us turn now to the refrigerator market and see how valuable supporting schemes are here. In this case a whole industry is conducting the national advertising campaign. It is a co-operative scheme. Against this background individual manufacturers have to push their own special makes of refrigerators. They have all got well-organized, complete support schemes working that cover the usual points—dealer-aid material, booklets, special window displays, and so on.

Novel, Sound Plan Boosts Sales 29 per cent

But The Lightfoot Refrigeration Co., Ltd., have a scheme which is unusual, interesting and successful, although in actual fact only a twist to an accepted idea. Reliability, quality and performance of refrigerators have, in the past, been told the public through publication of laboratory tests. The scientist has provided the sales argument.

The Lightfoot company, thinking over this point, felt that the public would be much more interested and intrigued if an ordinary housewife conducted the test under working conditions. There is always a tendency for the public to say about laboratory tests: "Yes, that's fine in theory . . . but what about everyday conditions in the kitchen?"

That is the new scheme: Kitchen-tested refrigerators to provide the sales argument. Four names were selected casually from a very old list of customers. These people were offered a new refrigerator to take the place of their old model. The only condition was that the company should keep the refrigerator under observation for several weeks and be allowed to publish results and names.

The tests were carried out to establish (*a*) costs, (*b*) performance and (*c*) operating conditions. These results, which bear out the laboratory tests, draw special attention to the refrigerators sold by this company. Special throwaways reporting the tests have been issued for distribution by dealers. This, of course, is only one part of the firm's total scheme, which includes advertising in magazines and local Press, payment of half the cost of dealers' advertising, help for retailers in direct mail shots and supply of literature and display material. Demonstrations and films, arranged direct or through dealers, and selection and training of salesmen for dealers are also part of the scheme. This company, you see, is going full out to support the co-operative national advertising campaign—and they are getting excellent results. In three months of the campaign sales have gone up about 29 per cent as compared with the corresponding period last year.

Sales Force and Dealers Must be enthusiastic

Support has been given in many ways. First the travellers are told in detail about advertising plans so that they can pass on the good news to their retailers. They are given pulls of advertisements and all the usual supporting material.

It is a main point of policy to get the salesmen enthusiastic. This is followed up by making dealers enthusiastic. For instance, when big spaces were taken in national papers, in addition to the usual broadsheet giving campaign details and the ordinary supporting display material, a special mailing of advertisement "pulls" for use as window bills was made to retailers. This is an old idea, of course, but here the special mailing of the bills the day before the advertisement appeared made the tie-up more vital in the retailer's eyes. As a result the bills got used. Had they been sent with the other display matter most would not have been used.

Why Specialized Media Are Preferred

In this year's campaign national newspapers are dropped; concentration is on radio and the specialized Press for women. Why? Because even with big spaces in the nationals effective tie-up in the market is difficult. And an ordinary Press campaign is very expensive. Much, too, of the readership of any mass-circulation paper is waste so far as any one product is concerned.

Havinden's say: It is essential to get into the home with advertising of a consumer product. That is one reason why the company are using radio heavily—six concerts a week: mornings and afternoons on Mondays, Tuesdays, Thursdays and Fridays from Radio Normandy and Radio Luxembourg. The famous radio star, Big Bill Campbell, with his Hilly Billy Boys, provides the attraction. Campbell is popular, and his breezy, cowboy style of talking is suited to putting over "Lushus" sales talk. Fan mail is proof of his success.

We Suggest . . .

A More Quickly Consumable Unit

One tube of this preparation lasts a month, even with daily use. Yet effort is being made to build up distribution among retail chemists. Chemists like quick turnover of proprietary lines. Vosemar Ltd. might do well to look further into this point.

What about a smaller tube, say, at a shilling?

The first retail display pack carried 12 tubes but it was not popular; long 'life' of the product in use meant, to small chemists, too prolonged a display of one carton. The new pack shown here, carrying only 3 tubes, is being accepted by the trade as a more 'handlable' proposition

A LITTLE over two and a half years ago a man and a boy worked in three rooms of a small semi-detached house in Bury, Lancashire. They filled white unprinted tubes, placed them in plain cardboard boxes together with a cheaply printed leaflet, packed and carried them to the post office.

To-day in Bury there is a modern factory with floor space in excess of ten thousand square feet, equipped with the latest tube-filling machinery.

The name of the firm is the Vosemar Co., Ltd., and the products which go into the tubes are four: Curly Top, the natural hair curling preparation for babies, Vosemar, the natural hair waver for grown-ups, and two shampoos; Curly Top for children, Vosemar for adults.

Since most babies are born into middle class and working class homes, Curly Top had to sell at a low price if the maximum number of prospects in the potential market were to be reached.

'Prospects' Three Million Youngsters a Year

Manner of using Curly Top is to dissolve contents of tube in water, a little of this solution being rubbed into baby's hair every day. Usually four tubes and four months' treatment are required before curls appear. The market is considered to be mothers with children under five years of age. The number of children under this age fluctuates from year to year; but on an average some three million of population is under five in any one year.

720,129 babies were born in Great Britain and Northern Ireland in 1936, year in which Curly Top, Vosemar's main line, was just advertised. These babies were unaware they were nearly all potential "customers" for Curly Top, as were the three million and more children under five years of age.

On Saturday, April 16th of this year, in the *News-Chronicle* there appeared a two inch Bargain Square, the very first advertisement for Curly Top. It offered a treatment for curling babies' hair and a one month's tube cost 1s. 3d. This advertisement brought 165 replies. A week later a further advertisement appeared in the *Daily Mail* which brought even more replies. Followed the next week an advertisement in the *Daily Express*.

Other newspapers were added to the schedule of Bargain Space advertising. In August women's papers were included in the advertising appropriation and marketing policy altered.

Plan to make Products Boost Each Other

Now instead of endeavouring to get direct replies, an endeavour was made to sell Curly Top and Vosemar through the chemists and hairdressers, although a line was still included in the advertisement stating that if Curly Top or Vosemar were unobtainable through chemists or hairdressers it could be obtained post free from Vosemar, Ltd.

The tube was now printed for the first time. More recently the tube and outer have been redesigned.

Later on came a shampoo. It was required to link the shampoos and the curling lotions in some manner so that the sales of the shampoos would also advertise Curly Top and Vosemar and the sale of Curly Top or Vosemar would advertise the shampoo.

A coloured booklet was therefore designed which could be inserted in either pack and still be appropriate. This booklet is designed so that if it is opened at one end all the right hand pages tell the reader about Curly Top, while the left hand pages are upside down, and hence unreadable, whereas, if it is turned over and read from the other end it tells the reader all about the shampoo and the Curly Top matter is then upside down.

Some interesting facts have been found out from chemists about the marketing of this product. One of these is that its highest sales are during the summer months, from April or May to September, and investigation has shown that this is because some mothers fear the effects of the cold air on a damp head during the winter months.

Also, a counter display holding a dozen tubes was designed and used for Curly Top for some little time, yet this was found not to be as popular as it was hoped.

The reason for this was found to be that there are dozens of small chemists in this country, all of whom are profitable outlets, yet who do not sell very much of any one product during the year. Now each tube of Curly Top lasts one month; therefore if a chemist could sell only one or two tubes a month then the display outer, to be of any use to him, would have to be on his counter for at least six months before he sold the dozen tubes it contained, since it would be unlikely that he would have more than one or two customers for Curly Top at one time.

This outer would take more space than he would desire to give to it and it might be also, since his livelihood depends on the accumulation of profits from hundreds of lines rather than a big profit from one, that he would not wish to buy the dozen tubes at a time.

This was found to be the case and therefore an outer to hold three tubes was designed, and this is achieving good display in small chemists' shops all over the country. Thus distribution is progressing not only in all the stores such as Taylors, Boot's, Timothy White's, etc., but in small back street shops as well.

'Trunk Road Haulage is Another Matter'

'BUSINESS' Special Road Test No. 9 . . *The THORNYCROFT 'Trusty' 7½ Ton 'Oiler'*

This big 'oiler' has not only a fine appearance, its 'convenience factors' also rank high

By
RICHARD
TWELVETREES
A.M.I.Mech.E.

WHEN discussing road haulage with the transport manager of an important firm recently reference was made to special conditions obtaining when goods are conveyed over long distances on trunk roads.

It was then that the remark "Trunk road haulage is another matter" prompted me to undertake a road test of a typical vehicle designed for this particular service. Facilities for a test were offered by John I. Thornycroft & Co., Ltd., London and Basingstoke, who suggested my visiting their works and trying out their latest "Trusty" 7½-ton oil-engined long distance freighter in a run on the London-Southampton road.

There are several things about starting a road test from the manufacturer's works that always appeal to me. All required data as to vehicle design and dimensions are available at the source, vehicle and pay-load weights can be checked on the factory weighbridge and any desired corrections of test weights can be made at once, facilities for greater accuracy in obtaining fuel consumption figures are at hand; in short, everything is ready for test on a businesslike basis.

As a start therefore we ran the Trusty on to the weighbridge which showed the total weight to be strictly in accordance with legal limits, leaving 8 tons to represent the pay-load, including the driver's weight.

A 7¾ Ton Load is Within the Legal Limit

With suitable bodywork the Thornycroft Trusty oil-engined vehicle can carry 7¾ tons legally within the maximum weight permitted by Ministry of Transport Regulations for a four-wheeled vehicle.

The chassis lay-out, while quite orthodox, has the front axle set back so that the recommended gross load is distributed over the two axles in such proportions that the rear axle weight does not exceed the limit of 8 tons on any one axle. As I discovered later, this feature of design is very beneficial also in improving the general roadworthiness of the vehicle, while rendering it safe and easy to drive.

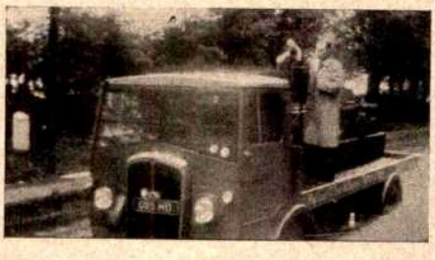
Why 'Pull' Figures Are Not Recorded

Advantage was taken of the level weighbridge to set the Tapley instruments; but, though both were used for my own information, braking figures only are recorded in the following report. That is because, having a high rear axle ratio for trunk road service, the Trusty maximum pull figures might be misleading if compared with those taken with vehicles similar in type and carrying capacity, but with lower geared axles.

Actually, the results were quite satisfactory though naturally less striking than those obtained in ordinary circumstances.

Special care had been paid to fitting a test tank to aid the checks on fuel consumption. This needs particular attention with an oil-engined vehicle, as I have found to my cost on other occasions when air-locks in the fuel system have led to considerable difficulties with the injectors. That, by the way, is only an inconvenience arising when testing, it does not occur with normal operation.

Having checked everything a start was made from the Thornycroft works and, in a heavy rainstorm, the run began towards London over a rather treacherous road surface.



Filling the fuel test tank

Operators who may have fought shy of oil-engined vehicles on the score of supposed smell or noise need have no misgivings about Thornycrofts. The Trusty is quiet in action and develops ample power with almost silky smoothness. Smoke and smell are conspicuous by their absence and, with the added attraction of highly economical fuel consumption, the oil-engined Trusty does its work as though propelled by a powerful six-cylinder petrol unit, though relying upon four cylinders only.

With the manufacturers' approval I devoted the remainder of the morning to checks on fuel consumption. Ignoring the distance recorder on the speedometer by reason of possible inaccuracies I gave instructions for the test tank to be filled to the brim when we stopped at the first milestone. The run was then continued at normal cruising speed towards Camberley. Several long gradients reduced our speed by third and second gear work, which also caused the engine to consume fuel in proportionate quantities.

Other handicaps *en route* included several stoppages where highway reconstruction was in progress and a detour over an unclassified road for a distance of one mile in the same area. These are things not usually encountered in trunk road haulage and made our test more difficult.

Stopping at the fourteenth milestone, near Camberley, we refilled the test tank and turned to make a similar check on consumption over the same road in the reverse direction.

Fuel Consumption, Good: 13·2 M.P.G.

On the return run the road obstructions prevented a clear run and steeper gradients were encountered, but on calling a halt just before entering Basingstoke we took careful records of distance covered and quantities of fuel used which showed the Trusty 7½-ton "oiler" fuel consumption at 13.2 m.p.g. and that in bad weather over a hilly course with obstructions on the way.

Lunch with members of the Thornycroft design and production staff was the occasion of a long interesting talk on technical and operating subjects as well as comments on the Trusty performance. Everyone concerned agreed that the model had put up a very good show under difficult conditions. "Now I suppose you want to see how the Trusty will fare when treated to your usual 'rough stuff'," said the official who had assisted in the morning's operations.

Promising not to be too unkind or inflict any damage I took charge once more to drive over part of the course

(*Continued on page* 64)

BUSINESS
Annual Survey
OF
Administrative Equipment
FOR
FACTORY, SALES & GENERAL OFFICES

THERE is no better time than this month of the year for a general check-up of equipment in almost every type of business

With the natural laxity of summer wearing off the beneficial effect of holidays begins to assert itself. This quickening of the physical powers, coinciding with the seasonal revival of markets, puts everybody in that progressive frame of mind which ought to lay the foundation for a successful season.

It is for this reason therefore that we put before our readers a survey of the latest and best in the field of business equipment.

This Is a Twelve Months' Guide

It is not our idea in these columns to advocate any special equipment for any particular work. We take it for granted that executives, on looking over their own organizations, can perceive pretty well at what points new or additional equipment would help to increase their business or output and at the same time reduce relative costs. What our survey does is to show the most modern equipment that is available so that now, or in succeeding months, this clearly tabulated information can be used by executives to supplement their own ideas and plans for re-equipment or expansion.

This survey is not in the nature of an article appearing normally in a monthly issue. It is intended, as a catalogue, to remain active for a full year. We suggest that executives either cut out the survey pages, or, better still, retain the whole issue for reference. Next September the feature will be completely revised in the light of further developments; but until then these columns will provide a comprehensive guide in a very handy form.

"ability to use modern methods governs the speed & cost at which business can be done"

During the year it is our job to travel all over the country visiting firms that are outstanding for the progress they make. At such visits we talk with executives, look over equipment and methods employed in the offices and factories and find out generally what policies lay behind the good results achieved.

We can say this without any exaggeration, and without fear of being challenged: that in no case, during our past year of work, did we find a firm making notable progress in the face of out-dated equipment and methods.

When we say this we do not refer to "equipment" as plant and machinery for manufacturing purposes, but what, for the want of a better term, is generally known as *business* equipment.

We were interested to find, too, that in only an extremely small minority of firms did there exist any points where some archaic piece of equipment remained to jeopardize the proper functioning of an otherwise well equipped organization. We found that where firms were running on modern lines they were well equipped throughout.

This is important because it proves that executives in control are installing equipment according to comprehensive plans, and that to-day they do *not* regard modern office equipment as a series of gadgets to be bought independently upon whim or fancy.

to-day the

OFFICE MANAGER

is a key man in business for on the completeness, speed and accuracy of FACTS which he supplies the whole function of successful management depends

Danger of Illogically Installing Modern Equipment

There is no more illogical way of considering office equipment than that of regarding the various lines as independent items. How futile, for example, to widen the scope and increase the speed of data-recording if no relative provision is made for properly dealing with the facts secured. Or, to mention one of the few bad instances we observed, let us recount the following:

A certain firm with a large sales force throughout the country installed a modern office printing machine and a new system of sales reports and follow-ups. The Object was to feed the sales force with a stream of well-thought-out information plus, twice weekly, a bulletin.

This meant that on certain evenings of the week there was a much increased out-going post. And if all this extra mailing was to benefit the salesmen it had to reach them by first delivery next morning.

Unfortunately, whoever thought out the sales promotion plan gave no thought at all about equipping the firm's mailing department to deal with it. As a result, though the post clerks worked overtime, fifty per cent of the salesmen's stuff consistently failed to reach its destinations on time, its value was thus lost.

A fault that ought at once to be

obvious? One would think so.

But such disparities are the exception, so let us look at some of the proper applications of modern equipment that we have seen in the past twelve months.

A well known typewriter manufacturing concern reorganized and revitalized its entire sales control and methods of accounting by introducing a hand punched card system. Sales management is now based on specific facts which, under the old system, the sales department could not even attempt to obtain.

A large wire and screw manufactory introduced equipment that provides (1) control of *all* costs by enabling comparisons to be made with "standards"; (2) reconciliation of costs with the financial accounts of the company; (3) *Visible* profit and loss *daily* on all production, sales and stocks for every line of products; (4) substantial reduction in clerical labour.

In Birmingham a director of another manufacturing concern said: "We can now afford, without increasing prices, to carry increased labour rates. This is possible because, through a modern system, we get *all* our actual costs in one-tenth the time and can work to a predetermined budget. Formerly, wages analysis took ten days, job costing on service work was haphazard, sales analysis was incomplete and had a big time-lag. Modern office equipment has literally rebuilt this business."

Better Work at Lower Cost is Double Saving

The office manager of a London mail-order house said: "Before we reorganized our mailing lists on an up-to-date basis we had to be content with 5,000 classifications. With modern methods, however, we have been able to break it down into 19,800 classifications, giving a far more "sensitive" coverage, and any one classification can be isolated by a junior in about ten seconds."

The managing director of a London firm of chain store furnishers showed us how, to-day, his tens of thousands of hire-purchase accounts, spread over twelve large branches, are automatically balanced every twenty-four hours. Under the old method it took a month to balance only four branches' accounts.

"We could never have reached twelve branches if it had not been for the finger-tip control which modern equipment makes possible," commented this managing director.

A well known musical society which looks after the financial interests of music writers, publishers and performers saves sixty working days a year by modern accounting and filing systems.

A famous steel corporation saved 133 million clerical figure entries a year by installing up-to-date equipment. This item, together with other economies made possible in other parts of the organization by the introduction of modern methods, enabled the corporation to save, in cash, at least £311,000 a year.

These examples by no means cover the field which we have explored during this year. We think they are sufficient, however, to indicate the tremendous economies and improvements that can be introduced by modern equipment properly applied.

Use This

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ADDRESSALL MACHINE CO., 266, High Holborn, London, W.C.1.

Addressall machines: more than addressing machines; are the means of doing mechanically a great deal of work otherwise typed or hand-written. For example, in wages department, names and numbers of workpeople can be put on clock-cards, time-sheets, wages-bags, etc. and wages-sheets listed. In accounts department, statements can be addressed and dated simultaneously; in secretary's department, shareholders' list can be kept on Addressall stencils from which dividend warrants, meeting notices and proxies can be addressed and dividend and annual return listed. Basis of Addressall system is Indexograph Record-control Stencil; combines index card with addressing machine stencil. Stencils are stocked blank, and printed to suit each user's requirements on one or both sides. Addressing stencil portion can be "made" on any typewriter in user's own office; this facility means additions or alterations can be carried out immediately.

Indexograph Stencils: practically indestructible; guaranteed for 100,000 impressions or as long as any name is likely to remain on list; obtainable in various colours; punched or notched for purpose of various classifications; filed same as ordinary card index in metal cabinets.

Addressall machines can be hand or electrically operated (there are also foot-operated models); hand or automatically fed.

Automatic Selection: machines can be supplied with complete system of selection; no selective problem too complicated to solve automatically. Machines will print consecutively, skip, repeat, duplicate or triplicate; can be fitted with attachments to list, date or count.

ADDRESSOGRAPH-MULTIGRAPH LTD., 29, Kingsway, London, W.C.2.

Addressing Machine: writes names, addresses, dates, specifications, upon office and factory forms; high speed; without possibility of error. Basis is metal plates, upon which details are embossed; when placed into the Addressograph, prints through ribbon, producing work exactly like best typewriting; any constantly recurring data reproduced on any form instantly.

Dual-Purpose Plates: Addressograph metal plates are permanent means of accurately reproducing recurring information, form lasting records; being same size as index cards, are filled in same manner. Plates made to hold index cards, bearing same information as embossed plates; also contain slots for small metal signal tabs. Cards and tabs supplied in colours; or tabs lettered alphabetically, numerically or geographically; seen when plates are used; either reference in trays are at visible printing point of Addressograph. When plates with tabs used on electric or automatic feed, Addressograph's selection is automatic; machine set to print or skip plates.

Machines: addressing and printing machines made in variety of styles and sizes. Smallest Addressograph is hand-operated, takes one address plate at a time; biggest machine, from reel, cuts paper to required size, fills in addresses or other data through ribbon, prints both sides of form at speed of 8,000 an hour. Between two are hand and electric machines, automatic and semi-automatic, for every addressing requirement; also Dupligraph machines to print facsimile typewritten letters, sign and address them in one operation at speed of 2,000 complete letters per hour. Machines also prepare factory order forms, production and piece-work cards, etc.

Multigraph Printing Machines: letterpress printing machines, junior of average intelligence can quickly produce highest quality printed material. Letter headings, invoices, envelopes, factory forms, cards, labels, price lists, booklets, etc., printed.

Multigraph Letter-Writing Machine: for high-grade printing; facsimile typewritten works; from metal type through ribbon. In one operation prints name, address, date, salutation, body of letter, subscription, facsimile signature and addressed envelope. Such work produced at rate of 1,000 an hour by one operator.

Multilith Duplicator and Printer: for duplicating and printing, using flexible metal plate instead of wax stencil. Reproduces typewriting, handwriting, pen, pencil and brush drawings, pen tracings, etc. The Multilith also reproduces lithographic printing. No blocks or type required; medium from which printing obtained is thin flexible metal plate. Operation simple; experienced girl can produce quality printing.

Folding Machines: fold facsimile letters, leaflets or price-sheets in variety of ways to fit envelopes of any size; one folding arrangement quickly changed to another. Speed eight to twenty-five times faster than done by hand.

Model 40 Multigraph Duplicator: Electrically operated; negligible running costs. Simple to operate; controls conveniently grouped; streamline appearance; occupies only filing cabinet space. Almost any grade of weight of paper or card, up to post-card stock, can be used. Three duplicating media available: DupliMAT, for ordinary duplicating; Duplex plate for reproduction of typewriting, crayon drawing, etc., Photographic plate for ruled forms, light-face printer's type, letter-headings, etc. etc.

See this firm's announcement, cover i.

ART METAL CONSTRUCTION COMPANY, 199, Buckingham Palace Road, London, S.W.1.

Filing Cabinets: two depths, 24½ in. and 28½ in., with and without automatic locking, in following sizes—quarto, foolscap, oversize foolscap, invoice, folded document, 5 by 3, 6 by 4, 8 by 5 and 9 by 6 in.

Desks and Tables: of high-grade C.R.C.A. steel, "Artolin"—covered tops and bronze hardware. Standard sizes 60 by 34 and 55 by 27½ in. (double-pedestal), 45 by 34 and 42 by 27½ in. (single pedestal). File drawers carried on progressive roller-bearing suspensions, box and knee-space drawers on channel suspensions. With and without automatic locking.

Postindex Visible Files: steel drawer cabinets, books, desk "rapid" stacks, and swinging reference panels (for strip-index only). Take 4-page folded cards; trunnions on wires ensure alignment of visible edges.

Adjustable Shelving: stacks from standard stock parts—angle supporting posts, shelves, sheet partitions, backs, bin parts, label-holders; other optional fittings.

Planfiles: capacity 3,000-6,700 drawings, all sizes, vertical filing. Drawings held and protected from creasing in spring-compressed pockets.

Sectional Sound-Insulated Partitions: cornice or ceiling height, or low "friendly" partitions. All, except type "R" factory partition, sound-insulated panels; three-way raceways on both panel faces for concealed telephone, lighting and power wiring. Posts have floor levelling bolts and (when ceiling height) ceiling pressure bolts. Rubber stripping under floor channel ensures water-tight base. Panels in multiples of 5 in. from 20 to 50 in. maximum. Glass or steel panels optional, double or single glazing as specified.

AMBIDEX EQUIPMENT CO., 44, St. Paul's Churchyard, London, E.C.4.

Ambidex Sorters: for sorting mail, documents, etc.; enables job to be done in half usual time. Models for any kind of sorting, any volume of papers, large or small.

See this firm's announcement, page 48.

AUTOMATIC TELEPHONE & ELECTRIC CO., LTD., Strowger Works, Liverpool, 7.

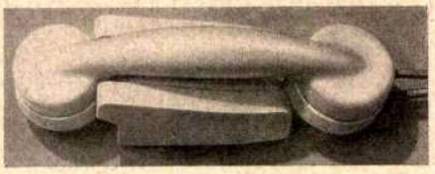
Strowger Private Automatic Telephone Exchange: standard capacities 10, 25, 50, 100 and 200 lines, but equipped as required. Relays and Mechanism to British Post Office Standards. Special Services which can be added if required: Key Calling, Conference, Priority Calling, Secretary Answering, Code Call, Fire Alarm, Watchmen's, Party Lines, Tie Lines, Discriminatory Ringing.

Telephones, Desk Model, Automatic: black moulded plastic case with cradle switch, hand microtelephone dial, cords and connection strip. Used with separate

AN EXAMPLE OF ART METAL'S SECTIONAL SOUND INSULATED STEEL PARTITIONS

bell set B.P.O. Standard. Also available in red, green, ivory, mahogany, walnut.

Desk Model, Automatic: as above but with bell set in case.



TYPICAL EXECUTIVE TYPE HAND MICROPHONE SET, COLOUR TO MATCH FURNISHINGS

Wall Model, Automatic: black moulded plastic case with cradle switch, hand microphone, dial and cord. Incorporates bell set in case.

Weatherproof Automatic: robustly constructed iron case incorporating transmitter, hook switch, bell set, dial and receiver; complete with sealing glands for receiver cord and line cable.

Automaster Intercommunication System: fully automatic; secret conversations. Uses

THIS SPECIALLY WEATHERPROOFED AUTOMATIC MODEL IS DESIGNED FOR USE IN EXPOSED POSITIONS

standard automatic telephones with dials. Master station has loud-speaking telephone in addition to handset and uses keys to call individuals. Priority calling and conference service incorporated. Operates from A.C. mains. Capacities for 5 or 9 lines plus one master station in each case.

Reply and Call Telephones: for two or more stations. Black or white moulded plastic handsets and mounting; incorporates cradle, switch and buzzer. Standard pattern for wall mounting; can be adapted for table use. Operated from dry cells.

THE BAR-LOCK CO., Bar-lock Road, Basford, Nottingham.

Super 19 Model: one-piece base construction; touch control; new style feed release levers; dual purpose front and rear opening paper bar; carriage release levers; positive locking platen latch; improved space-key mechanism, tabulator stops and increased length of writing line. All lengths of carriage from 11 in. to 28 in. size, interchangeable on base of Bar-Lock machine; possible to interchange book-keeping carriage complete with key-set tabulator. Platen and feed-holder complete with rolls, interchangeable; for stencil work, special platens with cork covering and feed-holders with cork rolls, supplied to interchange with standard platen and feed-holder. Bar-Lock machine can be converted in few moments for producing multiple copies of invoices, works orders and similar continuous stationery forms.

Bar-Let Portable Typewriter: will write 8-inch line; cut good stencil; withstand rough-and-tumble travelling. Finished in black, or colour; inexpensive; complete with weatherproof carrying case; fitted with necessary cleaning utensils, container for stationery.

Bar-Lock 4-Bank Portable: complete in carrying case; approximately 12 in. deep by 12 in. wide, less than 3 in. in height; has all features usual on standard machines.

BELL PUNCH COMPANY LIMITED, 39, St. James's Street, London, S.W 1.

Portable Automaticket Machine: portable register of autographic type; suitable for all kinds of revenue collection and control. Compact machine; issues hand-written tickets, at same time retains duplicate. Both receipts and duplicates made of stout paper, printed in strip form, stacked inside machine; capacity 550 tickets and duplicates. Replenishing very simple; takes about three minutes. Register is fast in operation; receipt made out in a second; instantaneously ejected by depression of small lever; duplicate remains inside, inaccessible to operator. Design of tickets prevents misuse and interference, owing to specially prepared and designed carbon ribbon; impression written on front of ticket is also reproduced on back; repeated on duplicate. Machine measures 7½ by 5½ by 2 in.; fully loaded weighs only 3½ lb.

"Plus" Adding Machines: small portable; low in cost; fast in operation; capable

STANDARD STERLING MODEL "PLUS" RAPID ADDER

of use by any person of average intelligence. The "Plus" and "Plus Minor" Adding Machines are British designed and manufactured; simple and accurate; useful in large and small offices, alone or as auxiliary to calculating machines. Novelty is omission of keys for figures 6 and 9, to increase speed, skilled operators never use keys for figures 6 to 9 because it is quicker to strike two keys consecutively, say, 3 and 4 for 7, than to move hand and arm to a No. 7 key.

All models of "Plus" identical except keyboard; keyboard difference also present in "Plus Minor."

THE PORTABLE AUTOMATICKET REGISTER IN USE

"Plus" Machine made in five models, two for sterling, three for decimals.

"Plus Minor" available in three models: sterling and decimal.

New model recently introduced for use of Treasury and Banking houses; known as "Plus Major"; has capacity of 13 digits; sterling keyboard arrangement gives total of £9,999,999,999 19s. 11d.

Also important are Standard Rupee and Standard Arabic Models. Arabic Model has Arabic characters on both key tops and figure wheels; capacity of nine digits.

BLICK TIME RECORDERS LTD., 188, Gray's Inn Road, London, W.C.1.

Standard Model 51: Single colour; Long pendulum, 88 beats per minute; 2-colour ribbon, abnormal workings recorded in red. Model 52, two-colour; employees going "out" before time (with or without permission) automatically recorded in red. Can be supplied for A.C. mains operation.

Standard 53: Same as 51 but with check action preventing any employee recording for wrong day. Model 54, two-colour.

Clip Super Automatic: designed to eliminate as far as possible the human element. No shift lever, worker has nothing to do but insert card and depress registration lever. Each day's total records in one column for each day. One or two-colour. Spring driven, synchronized electric or plug-in.

Clip Single shift Lever Recorder: can be used for time and cost control, also takes care of the problem of overlapping meal hours, shifts and irregular workers. Spring, synchronous or plug-in. One or two-colour.

Radial Time Recorders: for either daily or weekly time and wages sheets combined.

Universal Model "C" Time Stamp: desk size machine for stamping date and time of in-coming documents, etc.

Universal Model "B" Time Recorder and Job Costing Clock: similar to "C" but with an "In" and "Out" indicator gauge for departmental time and cost control.

Illustration, page 24.

BLOCK & ANDERSON LTD., Brunsviga House, Farringdon Street, London, E.C.4.

M.1. Brunsviga Calculating Machine: a crank driven calculator for preparation of statistics for costing, accounting, laboratory and other departments.

Wide range of models covers particular purposes, all are simple to operate. Most recent for general needs is Brunsviga "15"; it has tens transmission throughout, improved method of automatic transfer of figures, one clearing lever for whole machine, and its operation is frictionless.

Large model is the "20", which has, in addition, separate thumb wheels on product register and split carriage for accumulations. A machine for the scientific user.

Two other models are the Dupla and Twin 13z. Special features of these facilitate such figure work as mechanical integration, correlation, intricate mathematical and engineering calculations.

M.2. Mercedes Electric Calculators: Model 38 enables for the first time, it is claimed, multiplicand and multiplier or dividend and devisor to be set simultaneously on same keyboard and the answer to be delivered by depressing appropriate key.

M.3. Facit Calculating Machine: new model of an advanced principle; first machine produced on the single ten-key method of operation. Hand or Electric. It is extremely rapid, has tens' transmission throughout, is portable and silent.

M.4. Victor Adding Machine: adds, subtracts and prints results. Also prints subtotals at any position during work. Provides direct subtraction.

M.5. Victor Duplex Adding Machines: electrically operated. Model 25 allows several groups of figures to be added and individual totals obtained for each group —at the same time accumulating grand total of individual group totals. Model 30, in addition has two separate adding registers, can therefore be used as "two machines in one"—for instance adding two groups of figures (debits and credits—receipts and expenses, etc.), obtaining two individual totals in one operation.

M.6. Ormig Spirit Duplicating Machine: Reproduces anything written, drawn or typed in as many as six colours at one operation. No ink, stencils or gelatine required. Ideal machine for up to 200 copies.

M.7. Ormig Simplex: for the preparation of Operations Tickets, Material Requisitions, Progress Slips. Manufacturing Cards, Routing Sheets, Cost Cards, etc., from one Ormig master. This method eliminates re-writing or re-typing any information common to different forms and makes re-checking unnecessary.

M.8. Ormig "B" Record—Ledger Posting Machine: automatically posts to Ledger Cards, Statements and other records by reproducing original book-keeping entries. Errors in posting are impossible as the original entries are typed, hand-written or tabulated as an Ormig master and proved before posting starts.

M.9. Plan Clip: system for filing drawings, maps, blue-prints, fabrics, etc. Great saving in floor space yet reference is easy.

M.10 Langapres Portable Printing Machine: for overprinting literature, letter-headings, etc. Prints direct on to made-up boxes and cartons or practically any surface or material. 27 models.

M.11. Poko Postage Control: several models, consisting of three value or seven value machines—hand or electrically driven. Poko affixes actual stamps. No agreement with Post Office is necessary.

M.12. Bircher Envelope Sealing Machine: hand or electric models, speed 200 per minute.

M.13. Lightning Envelope Opening Machine: models for incoming mail from 50 to 50,000 letters. Takes any shape or size of envelope. Automatic feed and cut adjustment on all models.

M.14. Velopost Envelope Sealing Machine: for envelopes of mixed shapes, sizes and thickness in use. Special feature is electrically heated water for the sealing. Machine is electrically operated; sealing speed of over 100 per minute.

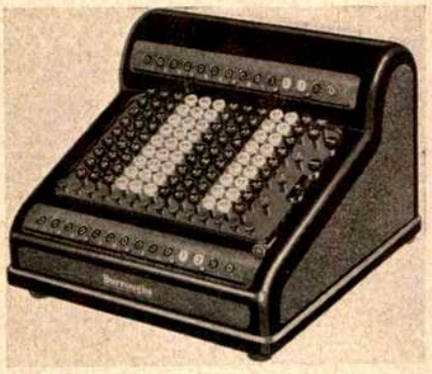
M.15. Speedmail Envelope Sealing Machine: for small mails, 80-100 a day. Good performance machine at low price.

See this firm's announcement, page 45.

BURROUGHS ADDING MACHINE LTD., 136, Regent St., London, W.1.

Burroughs meets figuring, accounting, cash registering and typing requirements with more than 450 different models and over 2,000 optional features. Models for all kinds of figure work in every office, factory, etc.

Desk Adding and Book-keeping Machines: short-cut keyboard makes machines easy to use, ensures speed and accuracy. Portable; efficiently operated without special training; occupy less space than typewriter.

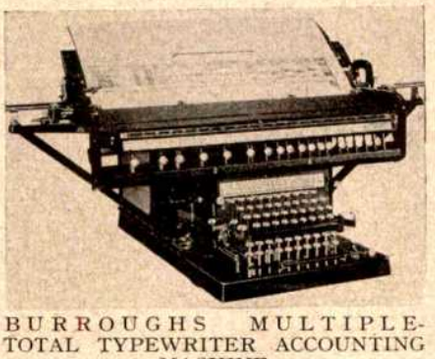


BURROUGHS NEW ELECTRIC DUPLEX CALCULATOR, WITH DIRECT SUBTRACTION

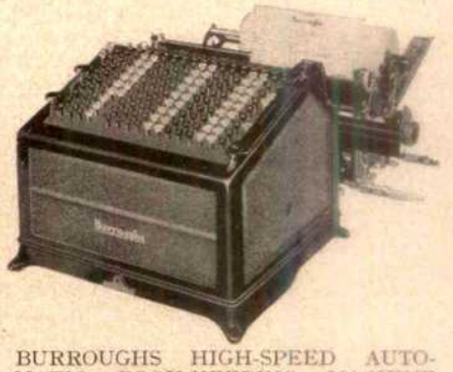
Desk Adding Machines: variety of styles with six, eight, or ten columns capacity; wide or narrow carriage, hand or electric operation. On subtracting models, "plus" motor bar automatically adds the amount, "Minus" bar automatically subtracts. Duplex models add two sets of figures simultaneously. All models have automatic ciphers.

Desk Book-keeping Machines: machine-posted accounts and records for small business. All ledgers posted and balanced daily; correct statements promptly despatched. Daily figure facts obtainable in a few minutes.

Accounting Machines: for all book-keeping and statistical work. Many styles and sizes. All ledgers posted and balanced daily; accuracy of posting automatically proved as made. Additions and subtractions automatically controlled; totals of postings automatically accumulated. Statements or remittance advices automatically prepared as by products of posting operation; ready for despatch at any time. Front-feed carriage enables detailed journal to be prepared automatically.



BURROUGHS MULTIPLE-TOTAL TYPEWRITER ACCOUNTING MACHINE



BURROUGHS HIGH-SPEED AUTOMATIC BOOK-KEEPING MACHINE

Multiple-Total Machines: high-speed multiple total accounting; models designed for Public Utility Billing. Others for all work necessitating automatic analysis under numerous headings, simultaneously with posting operation.

Typewriter Accounting Machine: combine automatic features of electrically-operated adding-subtracting book-keeping machine with standard typewriter. Used for accounting work requiring description. Collating front-feed carriage permits speedy, accurate alignment of several related forms.

All-purpose Accounting Machines: typewriter accounting machines; flexible, readily adaptable to many kinds of accounting records. Important features: minimum number of result keys; all totals and balances—debit or credit-computed and printed automatically by depression of single key; negative balances printed in red, with distinguishing symbol; automatic punctuation and tabulation for sterling amounts; automatic subtraction; automatic dates.

Typewriter Calculating Machines: perform any calculation; print result by depression of single key. Automatic adding-subtracting; full typewriter keyboard; automatically accumulate totals.

Multiple-Total Typewriter Accounting Machines: for accounting, distribution, statistical and other tabulating work requiring full description. Complete several records at same time; accumulate large number of totals.

Non-listing Adding-Calculators: key-driven; hand or electrically operated. For all figure work where printed record not required. Electric duplex calculator has two accumulating registers—(1) for individual totals or calculations; (2) accumulating grand total. Has new Burroughs direct subtraction by use of a single key. Other styles include small desk drawer model weighing only 7½ lb., measuring 11½ in. by 7¾ in.

Electric Carriage Typewriter: operated entirely from keyboard; built-in electric motor; electric carriage return; electric line spacing; electric shift. Wide selection of styles.

New Fanfold Machines: for continuous invoice and other multiple forms without interleaved carbons. Carriage opens automatically; forms released automatically; carriage returns automatically; carbons shift automatically; new forms lock in place automatically; carriage closes automatically.

Mechanical Service and Supplies: Service inspectors, factory-trained, employed exclusively by Burroughs, render prompt efficient mechanical service. Supplies include ribbons; non-smudge carbon paper; rubber cushion keytops; journal sheets; non-lint adding machine roll paper, etc.

Accounting Service: trained specialists investigate office routine of any kind of business, submit detailed recommendations for handling work more efficiently and economically. Facility offered free of cost or obligation to any business, small or large.

See this firm's announcement, page 27.

CARTER - DAVIS LTD., Queen Elizabeth Street, London, S.E.1

"Primus" Continuous Stationery: with "Primus" attachment and carbon pack enables stationery to be used with any standard typewriter. Attachment eliminates waste time in typing multiple records; assembling, interleaving and removal of forms from machine abolished. It also makes typewriter dual purpose machine—typewriter one minute, billing machine next; removing or replacing attachment not necessary.

Machine Accounting Stationery: fulfils requirements of alignment, registration, etc., for machine accounting. Firm specializes in producing stationery to meet exact individual needs.

Daily Balance System: for obtaining daily proven figures without use of accounting machines; machine method applied to pen and ink; allows writing three records in one operation; customer's statement, ledger account, daily journal. All entries balanced and proved correct at time of posting; customers' statements ready for mailing first of month. Daily journal, written at time of posting to ledger accounts, give detailed summary of entries; analysis of sales can be included. Basic book-keeping principles observed throughout; only application is new method; system introduced in any business without disorganizing existing routine; is planned to suit individual requirements.

"Primus" Autographic Register: for using continuous stationery for all types of hand-written records; open construction; simple to operate; no complicated mechanism.

See this firm's announcement, page 35.

CARTER-PARRATT, LTD., 317, Abbey House, Victoria Street, London, S.W.1.

Visible Systems: give "finger-tip" control over every phase of business management; all key facts visible at once at any time by executives. Systems are used for all kinds of visible record keeping—sales (total, departmental, area, group, individual salesman, etc.); credit; state of accounts; routine of calling on customers; lines that are moving or not; raw materials control; production schedule; and so on. The list is as extensive as records kept, for all records can be made *visible* by Carter-Parratt systems.

See this firm's announcement, cover ii.

CHUBB & SONS' LOCK & SAFE CO., LTD., 128, Queen Victoria Street, London, E.C.4.

Safes, Filing Cabinets: range of equipment certified "Full Protection, Class A" by official tests, National Fire Brigades' Association. Features of construction: outer shells of light steel; electric welding at all joints; insulation cast in monolithic block and reinforced with heavy steel mesh; tongue and groove fitting of doors and frame.

COLOURDEX CONTROL LTD., 14, Waterloo Place, London, S.W.1.

Visible Control Equipment: system designed for individual requirements to portray facts requiring close, continuous attention. Apparatus consists of central column with bars extending horizontally left and right; projecting outwards are notched "pins", with head-tickets at back bearing details of each item. Information given on different length tabs, and discs, individual or grouped. Colours for each head-ticket, disc and tab to emphasize particular facts: signals attached to front of pins focus attention on danger points. Unique feature is use of "pin"; aggregates and individual items are continuously and simultaneously on view; irregular facts are thus immediately thrown into relief, correctives can at once be applied and economics achieved.

CONSTRUCTORS LTD., Tyburn Road, Birmingham.

Steel Shelving and Storage Epuipment: based on "Adjusteel" standard components of posts, shelves, backs, partitions, bin fronts and dividers, doors, etc. Each unit complete with four posts; may be disconnected without removing single shelf. Single-faced stacks are two or more units bolted together; double-faced stacks made by placing two units of similar width and height back to back; any number units in length. Posts punched with bolt holes at 2 in. centres, provide 8-point attachment and adjustment of shelves. Normal shelf load capacity, 500 lb. Increase to 900 lb. capacity made by inserting 1 by 1 by $\frac{1}{8}$ in. reinforcing angles in front and rear flanges of shelf. More reinforcement possible by placing angles across centre of shelves. Backs separate units placed back to back; partitions close sides; bin fronts prevent small parts in store overflowing; 'Pressnap' bin dividers subdivide shelving space.

Steel Cycle Parks: sloping or horizontal parking single- or double-sided, fully or partly enclosed. In double-sided parks cycles occupy only 6 in. space width. Unit construction principle; steel coated in special rust preventive, finished in grey stoved enamel. Over 30 different types are available.

BLICK DESK SIZE TIME STAMP FOR INCOMING DOCUMENTS

(Text on page 22)

Steel Clothes Lockers: one, two and four-tier models; fire-resisting; built on unit principle, can be added to or rearranged easily. Door frames welded at all joints, bottom shelves louvred, feet made of rubber, door pressed to channel section on all edges, welded for strength. Six lever Cotterill locks standard fitting; umbrella clip and drip tray, card or ivorine number plate included. Finish, non-corrosive, non-chipping stoved olive green enamel. "Combination" lockers combine one or more one-tier units with two or four-tier units.

Steel Filing Cabinets: finished in stoved olive green enamel; automatic locks; frictionless drawer slides based on extending suspension principle; lock compressor to each door.

Steel Cupboards: stoved olive green enamel finish; three-way locking. Built from standard shelving components; available in wide range of sizes. Shelves adjustable, one inch on executive type, 2 inches on others. Various types and sizes for all uses.

"Mercantile" Desks and Tables: washable tops of dark green "Conolin", bronze binding. Drawers rigid-built on steel slides; sliding shelf; standard finish stoved olive green enamel. Desk available single and double pedestal; typists' tables with or without drawers.

Company Also Makes: card index cases, stationery cabinets, letter racks and trays, wastepaper bins, etc.

See this firm's announcement, page 3.

COPELAND - CHATTERSON CO., LTD., Exchange House, Old Change, London, E.C.4.

Machine-Posting Ledgers: several models, including book-form ledgers with binders made so that their grip is released instantly sheets are needed for posting; models in three different styles are: "Three-post"; "Express Posta"; "Fastgrip". For card ledger machine posting there are cards and guides in sizes and rulings for any type of book-keeping machine.

Trays and Trolleys: for storing ledger cards and guides, etc.; models in several styles. "Bank" tray and trolley has hinged lid which drops and automatically lowers tray to correct working position; "Maybee" posting tray, light and portable, can be lifted to and from machine zone, stored in fire-resisting cabinet; tray holds securely from 100 to 1,000 cards; hinged ends help handling of contents.

Speed-Rail Posting Unit: consists of number of "Maybee" posting trays mounted on platform running along a "railway;" operator can bring any one of trays with its cards to hand immediately and easily; speeds up ledger posting. Speed-rail unit can be provided with fireproof tunnel into which all trays can be run at night.

Vertical Visible: form of card ledger for machine ledger posting; every customer's name, address, account number, credit limit, etc., always visible. System consists of number of panels on which are mounted separators holding ledger cards and statement forms; separator tops hold renewable strip for name and reference; strip covered by transparent protector; separators are hinged to panel in positions to show reference at glance; panels stored in Copechat ledger tray or fire-file. System facilitates finding any account; cards, statements quickly withdrawn for posting; quickly replaced; panels stay open and cards easily read without removal; feature also prevents misplacing cards. Equipment allows complete scheme visible

THE SHANNOGRAPH
Full vision FLAT-TOP FILING

Different from any Filing you have ever seen

- Graphic control with unlimited applications . . . . . .
- Maintains perfect filing order automatically . . . . . .
- Fits any standard filing drawer
- Reduces all subject indexes to instant visual identification . . .
- A "split-second" locates any folder

SHANNOGRAPH employs all these advantages

Flat Top—Fully Visible . . . Fixed Signalling . . . Perfect Suspension Unlimited Classification Movable Signalling . . . . .

Write for full details-today

THE Shannon LIMITED

IMPERIAL HOUSE, 15, 17, 19, KINGSWAY, LONDON, W.C.2

BIRMINGHAM - BRISTOL - LIVERPOOL - MANCHESTER
NEWCASTLE-ON-TYNE - - GLASGOW (Agents)

4941

signalling, thus visible control of accounts.

Fire-Files and Safe-Cabinets: for protection of every kind of record against fiercest fires. Copechat Fire-file in vertical form; quarto and foolscap sizes; Copechat Safe-cabinet in four sizes with adjustable shelves; doors close flush, fitted with triple sliding bolts; special interior fittings provided for storage of books, ledger trays or card index records. Furnace tests of files and cabinets show safety margin 30 per cent at over 1,700 deg. F.

Visible Recording Equipment: choice of cards in sizes from 2¾ by 1½ in. to 17 by 12 in.; several types of equipment available. Card pockets made of superkraft; fitted with transparent protectors; cards contained in pockets or attached directly to bars; in latter case, cards used with or without transparent protector, dependent on class of record maintained.

Popular style is Copedex; consists of pocket attached to seasoned birch roller; revolves on brass ferrules. Similar styles are Bardex and Vizzdex; method of hinging different.

Strip Index: specially useful for lists of customers, credit records, works progress, cost and selling prices, membership records, indexes to filing and ledger reference numbers, etc. Consists of strips bearing one or two lines of information; 250 strips in panel; seen at glance; panels fitted with instantly removed dust shields if needed or each strip protected by individual transparent tube.

"Fasta" Billing Unit: used with Copechat continuous stationery; "Fasta" instantly converts standard typewriter into high-speed billing unit; after simple adjustment, machine is ready for use as typewriter or billing unit. Registration and alignment automatically gauged; unit self-contained; carries own supply continuous forms; extra copies added by front or back-feed method without disturbing registration or alignment.

Paramount Punched Card System: hand operated method sorting and analysing any kind of statistics; card can be ordinary time card, carbon copy of invoice, card index record card, etc.; holes are prepunched along card edges; original document always used. Information sorted or analysed indicated by clipping card edges with pair ticket nippers; sorting done by needle; no machinery required; junior can do the work. Speed: from 40,000 to 60,000 cards sorted an hour; suitable for every kind of analysis work.

Slip-Post Unit Posting System: abolishes copying and posting after original entry is made on unit card; can be used to go right through to final presentation. Slip-post card can be punched and sorted by Paramount method; filed in backing sheets housed in visible index equipment.

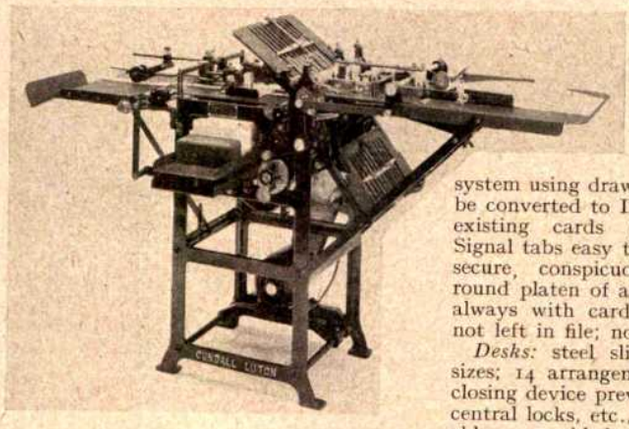
Loose-Leaf Books: range includes spring, thong and post binders; many styles and sizes, including "Hardite" covered binder; this model will stand roughest use, never needs renewal. Copechat will design special binders for individual firms if none of wide variety standard models suit.

See this firm's announcement, page 29.

THE CUNDALL FOLDING MACHINE CO. LTD., 25-26, Shoe Lane, London, E.C.4.

Universal Office Folder Model "FF": five folds for all classes work, parallel and right angle. Enclosed electric drive, motor 1/6 h.p.; all ball-bearing. Sheets automatically registered; width and length of fold controlled by gauges set to engraved scales; 80 different styles of folds can be done; speed 6,000 per hour, automatic packing. Maximum sheet, 11¼ in. by 17½ in.; minimum sheet, 2 in. by 3 in.

Parallel Office Folder Model "F" No. 1 and 2 Sizes: 1 or 2 parallel folds. Enclosed electric drive, motor ¼ h.p. Folds band paper or thin card; automatic register; length of folds controlled; 10,000 sheets per hour; automatic packing. Maximum sheet 10¼ in. by 14½ in., minimum sheet 2¾ in. by 1¼ in.



CUNDALL UNIVERSAL OFFICE FOLDING MACHINE

W. C. DAVEY & CO., 176, Tottenham Court Road, London, W.1.

The "Sterdy" Luminous Signalling System: operates off the electric mains. A small box, 2¾ by 2 by 2 inches surmounted by a small lamp like a thimble is basis of this system. One stands on the executive's desk, another stands on the desk of each other "station" required. Example of operation: Executive wishes to call his secretary. He presses his "thimble" lamp, this causes it to glow and also causes the lamp on secretary's unit to glow. As his thimble remains glowing, executive knows secretary is out of her room. But he does not have to repeat signal, he can carry on with other matters knowing secretary will see her signal when she returns. Secretary, on returning, sees thimble glowing, presses and extinguishes it and the one in her chief's room. Chief then knows she is on her way. System can extend throughout the organization.

Another application: includes the luminous "enter," "wait" and "engaged" signals affixed to an executive's office door and which can be operated by the same thimble "push lamp."

Another application: connects the system with the telephone switchboard. Operator can then see whether executives are in or out. Can also be used for timing trunk calls, thus enabling telephone charges to be reduced.

DEFINITIVE ACCOUNTING LTD., Victoria House, Vernon Place, London, W.C.1.

Hand-Posting Equipment: recording-tablets—aluminium or steel—align up to six co-related forms of different sizes in exact register for "manifold accounting". Pen-Carbon Papers; different grades and tints. Ledger cabinets and trays with metal "supporting plates"; high capacity and perfect "posting-V." Accounting stationery, precision printed on special paper; Forms punched for Definitive Visible Records.

Accounting Machine: "Three-Ways" machine automatically feeds and ejects forms to required typing position; selects required line on each form. Front feed; 12 in. or 18 in. carriage, interchangeable with correspondence carriage. Different sets of forms can be fed and withdrawn while other groups stay untouched for further entries. Adjustable touch; key-set tabulator. For ledger and day book work, statements, statistics, invoicing combined with ledger posting, etc.

Visible Records: three different arrangements with signal tabs or signal flags. Any system using drawers, trays or binders can be converted to Definitive Visible Record; existing cards and equipment used. Signal tabs easy to fix, move and remove; secure, conspicuous, and flexible; pass round platen of a ledger-posting machine; always with card for work or reference, not left in file; no misfiling.

Desks: steel slides, ball bearings; two sizes; 14 arrangements of drawers. Card closing device prevents damage to records; central locks, etc., desk parts interchangeable; assembled, dismantled, rearranged in a moment.

See this firm's announcement, page 49.

THE DICTAPHONE COMPANY, LTD., Kingsway House, Kingsway, London, W.C.2.

Model A-12 Dictating Dictaphone: enables the executive to dictate at any moment irrespective of the presence of a shorthand-writer. With Universal motor operates from 24 volts accumulator and all mains circuits up to 250 volts, A.C. or D.C. Has new natural voice Nuphonic recorder-reproducer with audible warning device which sounds when machine is not in the "dictate" position.

Model B-12 Transcribing Dictaphone: for use of secretary when transcribing matter dictated on A-12. Universal motor as above. Automatic voice repeater operated by Duplex foot control; start and stop similarly operated. Fitted in cabinet on castors with accommodation for cylinders and correspondence.

Either model can be supplied in de luxe cabinet with disappearing cover which, when opened, automatically brings machine into dictating position and returns it when closed.

New Model S-12 High-Speed Automatic Electric Shaving Machine: for resurfacing cylinders after dictation and transcription.

Model S-7 Dictaphone Shaving Machine: universal motor for all electric circuits from 50 to 250 volts, A.C. or D.C.

Model S-9 Shaving Machine: hand-operated, with crank motor, chip box and metal stand.

Current consumption of Dictaphone Models "A" and "B" is less than required for one 60 watt light bulb.

Dictaphone cylinders: supplied in cushioned cartons. Cloth-lined cylinders supplied if desired.

See this firm's announcement, page 1.

DICTOGRAPH TELEPHONES LTD., Aurelia Road, Croydon, Surrey.

Dictograph Executive or Master Station: private intercommunicating telephone. Dictograph master station is installed on chief executive's desk; upon instrument is a row of small switch keys, each connected directly with department of business. The executive desiring to talk with department No. 1 will touch key No. 1. That will ring Dictograph sub-station in department No. 1; light on sub-station indicates chief executive calling. Ringing and light will continue until person called attends sub-station. Meantime, executive goes about duties, whether at desk or any part of his office, until voice of manager of department

Burroughs

INVOICING MACHINE

Progressive Supplies Ltd.

YOUR ORDER No. 1234 DATE 27 JULY 1938

SOLD TO JOHN BROWN & CO LTD
HIGH STREET
NORWICH.

DESPATCHED PER LNER TERMS: NET

QUANTITY	DESCRIPTION	PRICE	AMOUNT	TOTAL
13	PELICAN LIGHTERS A207	6/8	4 6 8	
25	ITSOUT ASHTRAYS	2/6	3 2 6	
13	NUBIA PEN SETS PACKED IN GIFT BOXES PATTERN 3 WITH GREETING CARDS	3/4	2 3 4	
				9 12 6
	LESS DISCOUNT	5%		9 8
				9 2 10

Saves these operations . . . in preparing this typical invoice!

13 manual carriage returns

10 carriage tabulations

15 manual spacings of the platen

All tabulations by space bar

All manual shifting of the platen

The many unique features of this machine—ensuring the maximum of output with the minimum of operations — include electric carriage return, electric platen shift, electric vertical spacing, etc.

from the first line to the last . . . the hands never leave the keyboard!

The Burroughs Invoicing Machine is *not* just another typewriter. It is specifically designed for speedy production work. Combinations of related forms—such as invoice, posting copy and sales day book—are produced simultaneously. Models are available for all methods of invoicing—unit, continuous, fanfold, condensed, dual, etc. *Ask for a demonstration on your own work.*

●

BURROUGHS ADDING MACHINE LTD., 136 REGENT STREET, LONDON, W.1

BURROUGHS MANUFACTURE A COMPLETE RANGE OF MACHINES · 450 DIFFERENT MODELS, 2,000 FEATURES · ACCOUNTING MACHINES · ADDING MACHINES · STATISTICAL MACHINES · TYPEWRITER BOOKKEEPING MACHINES · CALCULATING MACHINES · CASH REGISTERING MACHINES ELECTRIC CARRIAGE TYPEWRITERS · FANFOLD MACHINES · CORRECT POSTURE CHAIRS · SUPPLIES

No. 1 is heard through loud-speaker of master station; conversation takes place as if subordinate had come personally into executive's office. No earpiece; no dialling operations; no request to an exchange operator; no waiting time; one operation gives instant contact. To bring second department into discussion, a second key is touched; executive and the two departmental men can hold three-way talk. Lifting of third key will enable third department to take part; thus executive can hold simultaneous conference with departmental managers; no one leaves his own desk. The executive has both hands free, moves about office, because master station delivers and receives conversations several feet away from instrument. Visitor in office can take part in conference; if desired visitor shall not hear departmental replies, executive can, by using an earpiece, silence loud-speaker, and receive replies privately.

Priority and Privacy: Dictograph system enables members of all departments to communicate with each other, but executives always have priority. Conversation may be in progress between several departments, but moment an executive touches one of keys on master station he is given immediate right of way. Dictograph master station provides private line to every point. Another useful feature is ability of executive to prevent interruption; master instrument indicates who is calling; if executive does not wish to be disturbed he can, by turning small switch, cut off caller and indicate he is engaged.

Staff Location: Dictograph Round-call and Dicto-call systems save time in finding individual members of staff. Touching of appropriate key sets in operation number of bells, horns, buzzers, or lights placed in all departments. These give coded signal so that wherever wanted person may be he is immediately notified.

Paging, Calling and Public Address Equipment: loud-speakers adapted for above purposes for exhibitions, halls, race tracks, swimming-pools, public buildings, council chambers, and hotels. In factories loud-speaker systems adapted for reception and broadcast of radio and musical programmes to employees.

At Your Service: Dictograph Telephones, Ltd., will be pleased to arrange practical demonstration in your own office, make surveys and submit proposals and estimates without any obligation on your part.

See this firm's announcement, page 43.

DRYDENS, LTD., Brent Crescent, North Circular Road, London, N.W.10.

Printers of Business forms, letters, booklets, advertising matter, etc.; will produce any type of printing needed by manufacturing or other business firms.

"Dual-Use" Letter Form: patented letter form which is combination of letter, sales literature and reply form; eliminates "enclosures" in mailing. Looks like normal letter form and carries usual business heading but has folder, integral with letter. This provides 60 sq. in. extra space on which any kind of printed publicity can be displayed; one section can be detached easily, used as reply form. (In October issue of BUSINESS there will be a sample enclosure of the "Dual-Use" letter form.)

See this firm's announcement, page 50.

THOMAS A. EDISON LTD., Victoria House, Vernon Place, Southampton Row, London, W.C.1.

Standard Pro-technic Ediphone Voice-Writing Machine: for dictation at any time without the medium of a stenographer. Universal motor, immediately convertible to 110 volt. A.C. or D.C. Employs sapphire point, single diaphragm for speaking and listening, claimed to be most advanced system. Safety signal warns when machine is not in the "dictate" position. Also supplied as a desk model.

Secretarial Ediphone, Transcribing Machine: for the transcription of dictated matter. "Typense" electrical control (starting, stopping, repeating, etc.), operated from typewriter keyboard. Auto-index enables corrections, etc., to be made automatically, fitted in castored cabinet for cylinders and correspondence.

Ediphone Master Shaver: for resurfacing cylinders after use. Universal motor.

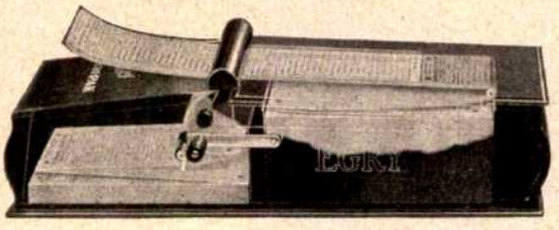
Keymatic Index: method of marking the index slip which makes communication between executive and secretary a simple matter. Pressure of a key on the Ediphone dictating unit marks length or correction as desired.

Cylinders: are provided with fabric lining for strength, and are supplied complete in carton.

See this firm's announcement, page 31.

EGRY LTD., Warple Way, Acton, London, W.3.

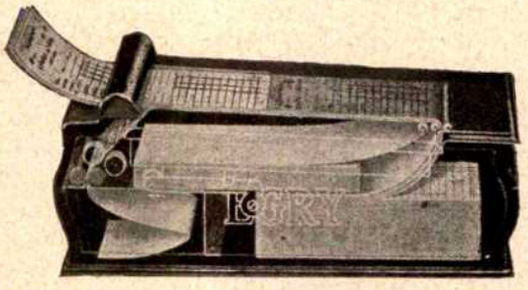
Com-Pak Manifolder: Produces an original written form and up to five carbon copies at a time without interleaving carbon paper. One turn of operating handle delivers all forms in the set for distribution. Takes 400 triplicate sets (or equivalent) of interfold pack stationery. Models available: 114, 115, 116, 118. These take width of form 4.5/16 in., 5¾ in., 6½ in., 8½ in. respectively.



EGRY'S COM-PAK RECORD RETAINS A COPY OF ALL WRITTEN FORMS UNDER LOCK AND KEY

Com-Pak Record: similar to Com-Pak Manifolder but retains copy of issued set of forms under lock and key in the machine. Where control is required this feature protects profits, provides accurate daily record of business turnover—accounting, stock record or merchandise movement. Models 134, 135, 136, 138 take widths of forms mentioned for Com-Pak Manifolders.

Tru-Pak Record: (Streamlined Model). Similar purpose as Com-Pak Models. Takes 400 triplicate form sets (or equivalent). Forms are aligned in the folds by means of a timed shutter. Models 444, 445, 448 available. Lengths of forms respectively 6 in., 6 or 8½ in., 8½ in.



THE COM-PAK SUMMARY PROVIDES DISSECTED ANALYSIS OF SELECTED ITEMS

Handipak Register: portable, streamlined, holding 100 triplicate sets of forms (or equivalent number) at one loading. Special function is production of internal forms which cannot be created at fixed points. Produces an original and up to three carbon copies of any essential routine form. Receptacle provided in the machine for storage of file copies. Model and form sizes: model 404, width 4.5/16 in., length 6 in., model 405, width 5¾ in., length 8½ in., model 408, width 8½ in., length 8½ in.

Com-Pak Summary: provides dissected analysis or summary of selected items. This is achieved by gearing down the last copy to move forward ½ in. for each turn of the operating handle when delivering written set of forms. Thus, when analysis of certain items is required, a short, concise summary is produced, giving a record of each transaction under its appropriate head in separate columns, and under lock and key. For receipting systems the machine not only delivers a receipt (in duplicate if needed) but creates automatically the cash book entry in usual form ready for posting to ledger. Models 124, 125, 126, 128 available taking widths as for Com-Pak Manifolder.

Com-Pak Analyser: similar in size and capacity to the Com-Pak Summary but is useful when issue of receipt for every transaction is not necessary. Forms issued are narrower than the summary sheet, a portion of which is thus exposed to view. Small sales demanding no receipt are entered on exposed part of summary sheet. Available: model 146—width of form, 4.5/16 in., width of summary, 6½ in., model 148—width of forms 4.5/16 in., 5¾ in., 6½ in., width of summary, 8½ in.

Egry Auditor: for handling cash transactions. All register models described can be supplied mounted on a steel cash till. Drawer operates automatically with each turn of handle delivering receipt. "No Sale" key is provided which can be locked if desired.

Continuous Feed Stationery: Continuous Roll, Interfold, Fanfold and Superfold stationery for use on Egry manifolding equipment and all modern billing machines.

"Speed-Feed" Attachment: for billing. Made to fit all standard makes of typewriters. Requires no change in typewriter construction; is merely snapped on to machine for billing, slipped off for general typing and correspondence. Its use eliminates unproductive effort and waste operations. By an automatic dual aligning pin, alignment of forms fed into the typewriter platen is controlled. Carbons are automatically fed into and withdrawn from each set of forms. The attachment is light in weight, durable, has no loose parts and places no strain on typewriter carriages.

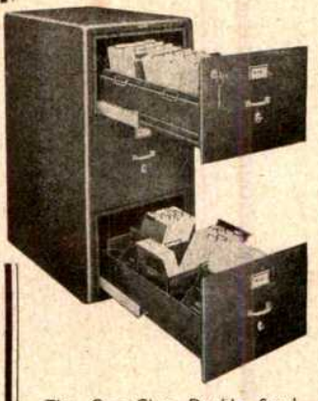
See this firm's announcement, page 4.

ELLAMS DUPLICATOR CO. LTD., 12, King Street, London, E.C.2.

Duplicators: automatic and hand-operated models; various sizes and styles.

SUCCESSFUL MECHANISATION

DEPENDS VERY LARGELY ON THE CORRECT CHOICE OF EQUIPMENT AND SERVICE



The Cope-Chat Double Steel Wall File gives convenient protection and brings the strong room into the office Actual test shows 30 per cent. safety margin.

EQUIPMENT

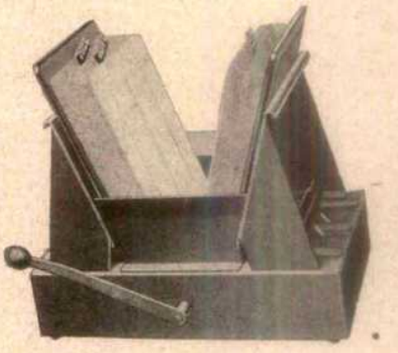
The Cope-Chat range embraces a wide selection in :—

BINDERS - TROLLEYS - TRAYS
SPEEDRAILS - SAFE CABINETS
FIRE FILES and VERTICAL VISIBLE

●

SERVICE

Cope-Chat experience goes back to the inception of mechanisation. For many years active co-operation with the Machine Companies has given us a specialised knowledge and a range of equipment which are unsurpassed

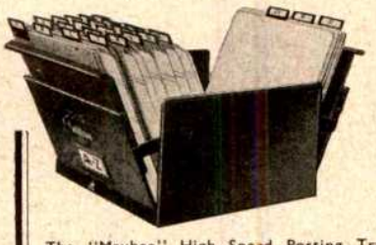


The "Express Posta" Combination Binder Tray. One simple lever movement converts Loose Leaf Binder into High-Speed Posting Tray. Allows for offset.

"Maybee" Trays are equally suitable for ordinary cards or Vertical Visible, the Perfect Accounts Control System. This is the ideal Combination.

This type of Tray and Trolley is made in sizes to suit all Cards. Fitted with three-way ball-bearing castors. Strongly made of best British steel.

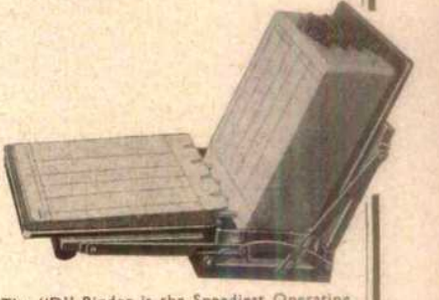
The "Fast Grip" Combination Binder Tray securely grips one sheet or one thousand. Instantly convertible by simple Trigger movement. Permits easy offsetting.



The "Maybee" High Speed Posting Tray. Adjustable ends securely clamp 100 cards or give generous posting Vee when fully loaded. Simple. Light. Portable.

If you use or contemplate using Machine Accounting Equipment of any kind why not send for our latest booklet: B. 17.

It's packed full of interest and will be posted on return by request



The "D" Binder is the Speediest Operating Ledger made. A quarter turn of the key and the Binder springs full open instantly. Fitted with Seal Pattern Lock.

THE COPELAND-CHATTERSON COMPANY LIMITED

EXCHANGE HOUSE, OLD CHANGE, LONDON, E.C.4

Telephone: CITY 2224 (3 lines)

BRANCHES AND SERVICE THROUGHOUT THE PROVINCES

ERICSSON TELEPHONES, LTD., 22, Lincoln's Inn Fields, London, W.C.2

Inter-Communication Telephones: loud-speaking system. Outstanding features: (1) no need to dial, call an operator or hold earpiece or mouthpiece; (2) replies heard aloud; (3) executive right-of-way control over other conversations; (4) executives need not leave their desks to hold conference; (5) loud-speaker can be switched off and hand-piece used when it is necessary to hear replies privately when another person is in office ;(6) system gives full secrecy. One to 15 executives can be on "hook up"; a flick of key and one or more executives can speak to each other.

EVERTAUT STEEL PRODUCTIONS, Walsall Road, Perry Barr, Birmingham, 22.

Steel Works Seating: over 20 models. Triangulated "L" steel frame; patented locking-box keeps legs perpetually taut; tightened by adjustment of single nut. Wood or upholstered seats, with or without backrests; adjustable, or in range of six fixed height seats.

Wall Seat: automatically folds back flat against wall when not in use. Suitable for machines, lifts, cinemas, chain-stores, large shops, etc.

Special Sliding Seat: for worker attending operations at different points of machine. Has four ball-bearing rollers. Varnished wood shaped seat and backrest.

Bench Seat: multi-purpose seat for fixing to bench, work-table or machinery. Device allows quick adjustment. Varnished seat, metal surround, can be swung away under bench.

Stacking Chairs: steel; special type for canteen use. 20 chairs can be stored in space of one. Using stacking chair trolley, 500 chairs can be cleared in about ten minutes.

Office Posture Chairs: Executive Chairs: "County" class office posture chairs in three styles—Worcestershire, Warwick-Westmorland; adjustable backrest and height. Executive and managerial use; "Chairman" model. Adjustable height; silent, safe tilt.

Steel Equipment: includes lockers, bins, adjustable shelving, steel filing cabinets.

FANFOLD, LTD., North Circular Road, London, N.W.2.

"Fanfold" Stationery: continuous forms for use in any billing machines; flexible, speedy and accurate in registration. Firm produces continuous stationery for all business purposes. Staff of trained men investigate and advise on each individual company's problems in this respect. Service free of charge. Other systems provided: "Speedoform" which, by use of "Speedoform" stationery, simple method of continuous form typing is possible; "Trankrit" process whereby ink is applied to different positions on backs of forms for each department to receive only necessary information; Carbonset continuous forms.

"Fanfold" Adapter: attachment for typewriters; requires no change to machine; same stationery as used in billing machines can be used in Fanfold adapter. Other equipment supplied by firm includes: conformulator automatic feed for attaching to Addressograph machines; autographic registers and Fanfold register systems.

See this firm's announcement, page 45.

FELT & TARRANT, LIMITED, Aldwych House, Aldwych, London, W.C.2.

Controlled-Key Comptometer: adds, multiplies, divides and subtracts in money, weights, measures, whole numbers and fractions; speed unlimited because operated solely by one motion, direct key-action; the automatic controls, "controlled-key" and "clear register signals," guard against human errors in operation.

Electric Controlled-Key Comptometer: new electric "K" model; short, light key stroke; automatic controls for accuracy; has "controlled-keys" and "clear register signals."

For
QUICK REFERENCE
under 'Products'
Use the Classified Index on Page 20

Model "J" Comptometer: nine different sizes suitable for invoicing, costing, wages, job tickets, stock sheets, analysis and every other figure work; automatic controls.

New Supertotalizer Comptometer: for all office figure work; enables items to be transferred and stored in separate register; sub-totals, whether additions or extensions, can be taken off item by item from first register while accumulated total is automatically obtained in second register. Machine can be used as standard model when not required for special duplex work.

Comptometer Systems: the bigger the problem, the bigger the machine needed, is not always the case. Many firms, large and small, have adopted the simpler methods advocated by Comptometer and saved considerably on initial costs and upkeep expenses. Everyone interested in office and factory management is invited to investigate the Comptometer system of unit tickets, with or without the comptometer pegboard forms, for sales analysis, material and labour costing, stock control, expenses allocations, every kind of analysis and figure-work.

FRANK R. FORD LTD., Sydenham Road, Sparkbrook, Birmingham, 11.

The Fordigraph Reproducer: model to meet every requirement where mutliple copies are needed. Chief details of machines: (1) low cost for production of any first copy; rock-bottom cost for runs up to 300 copies; (2) mode of operating eliminates need for stencils, ink, or special paper; (3) no preparation or cleaning, before or after use, required; (4) produces in one to five colours in one operation; colours permanent, fast to light, heat, oil and water; (5) any kind, size, shape or thickness of paper may be used; (6) finest details of architectural or engineers' drawings, charts, maps, plans, graphs, etc. successfully reproduced; (7) exact registration obtained when working on printed forms; (8) alterations made on "original" as easily as on typed letter; (9) no smudging, blurring or creasing of "originals" or reproductions possible when operating machine; (10) simple to operate; junior can be left in charge; (11) copies all or any desired section of information; (1) original data copied immediately or year later.

THE FORDIGRAPH REPRODUCER, PRIMARILY FOR SHORT RUNS

All models can be hand or electrically driven.

Fordicrimp: for simple binding together small or large number of papers.

Fordilite: ensures for typist perfect visibility on writing line; can be fitted to any make of machine.

Fordistele: quality range of all steel furnishing requisites.

See this firm's announcement, page 3.

D. GESTETNER LTD., Aldwych House, Aldwych, London, W.C.2.

"Precision -Inking" Duplicator: all-electric; can be re-inked whilst producing printed copies at 80-100 impressions a minute; depressing lever causes sufficient supply of ink to flow on cylinder at any desired part or along entire length. Cartridges containing new type Gestetner ink are used; quick-drying ink; duplicated copies ready for folding sixty seconds after leaving machine; automatic indicator shows amount of ink remaining in cartridge. Maximum printing surface 7½ in. by 12⅜ in.

No. 66E: standard electrically driven model, foolscap size; printing surface 7½ in. by 12⅜ in.; speed, 80-100 copies a minute.

Larger models made: 66A has printing surface of 7½ in. by 17¼ in.; 66E.B., 7½ in. by 18¾ in.

55E. Gestetner: for reproducing double foolscap size; simultaneous printing of two foolscap stencils side by side on double foolscap paper; unnecessary to have double foolscap carriage for typewriter as each stencil is typed separately. Printing surface 15¾ in. by 17¼ in.; model 55E.B., 15¾ in. by 18¾ in. Machines particularly useful for production of machine drawings, plans, etc.

"Royal" Gestetner: electrically driven three-cylinder model; accommodates paper up to 26 in. by 17 in.; printing area 25 in. by 16½ in.; designed primarily for production of plans; feed-board accommodates 100 sheets of paper. Speed 20 copies a minute.

Gesteprint Office Process: compact, handy auxiliary to Gestetner duplicator; evolved to enable rapid preparation of stencils for reproduction of facsimile illustrations; stencils prepared within half an hour; no technical skill required; outfit contained in portable cabinet; can be used in any office in ordinary light.

GLEDHILL-BROOK TIME RECORDERS LTD., Empire Works, Huddersfield.

Time Recorders: printed time records of attendance, labour costs, machine hours or transport; for use in office, factory, warehouse, shop, etc.; gives impartial check from workers' and employers' viewpoint. Many models available; feature is "the Clipper" mechanism, designed for costing

AS QUICK AS THE TELEPHONE

and as simple to use . . .

EDIPHONE USERS INCLUDE :

Bedfordshire County Council.
British Thomson-Houston Co. Ltd.
The Chloride Electrical Storage Co. Ltd. (Exide)
Ford Motor Co. Ltd.
The Gramophone Co. Ltd.
Imperial Chemical Industries Ltd.
Kodak Ltd.
Legal & General Assurance Society Ltd.
J. Lyons & Co. Ltd.
Morris Motors Ltd.
Oxfordshire County Council
Royal Borough of Kingston
AND MANY OTHERS.

"When found, make a note of," advised the Captain. Good ideas come at all sorts of unlikely moments—Voice-Write them while they are still vivid in your mind. Ediphone Voice-Writing gives you the freedom of your own time. No waiting for the typist ; no re-reading correspondence to refresh your memory. "When found, make a note of"—and then for the next job

EDIPHONE SYSTEM OF *Voice-Writing*

Write for details or FREE DEMONSTRATION AT YOUR DESK. Every responsible executive is invited to "sample" Ediphone Voice-Writing without obligation.

THOMAS A. EDISON LTD., VICTORIA HOUSE, SOUTHAMPTON ROW, W.C.1 *BRANCHES & DEALERS IN ALL PRINCIPAL CITIES*

and time-keeping; device clips piece from card each time the card is inserted for time recording; clip allows card to drop step lower at next registration. Clipper model used for (*a*) time recording; (*b*) job costing, (*c*) both, (*d*) recording time machine run and idle hours.

Synchronous Motor Drive Models: fitted with G.B. synchronous motor drive; enables recorder to be plugged into electric supply; no master clock needed to give power impulse.

Desk Autograph Recorder is special model for salaried staffs; signature machine. Universal Portable Recorder replaces time stamps, functions as time recorder; registers time on sheet or card, any size, by depressing table on which document rests; can be used for timing receipt, despatch of letters, etc., start and finish of jobs or straightforward time recording. Various other models also available.

See this firm's announcement, page 61.

HALSBY & CO., LTD., 6, St. Bride Street, London, E.C.4.

Protectograph: cheque writer; safeguards against fraud or alteration; saves time in cheque writing.

THE HAYWARD CO., (Addressing Machines) LTD., 62, Britton Street, London, E.C.1.

The Elliott System: since first Elliott machine was produced great improvements have been made; machines are now used for many other purposes than addressing envelopes or wrappers. But two features have remained unchanged—printing from stencil and printing from above on to envelope or whatever form used, i.e., forms are face uppermost.

The Stencils: Elliott stencils made in two sizes: one to take five lines of regular typing; the other nine lines, and can be cut on typewriter. Stencils mounted on tough but pliable card frame; typed or written upon if required; small attachment supplied which, slipped over platen of typewriter, grips edge of stencil frame so that it can be carried round on platen until typing position is reached; address or other particulars required typed in usual way, name or other details being typed on frame for indexing purposes. Stencils, completed, are filed in trays or drawers as cards are filed in ordinary card index. Filing of stencil cards may be alphabetical, numerical or territorially and alphabetically in towns or districts; frames of various colours can be used for different classifications.

Visibility of the stencils as they come through machine is feature of Elliott System: this allows advantage to be taken of colours or other markings used on frames; stencils pass through machines face upwards; operator can see each one before it comes into printing position; can either print from or skip it.

The Addressomite: operated by hand; one turn of handle prints address, brings next stencil into printing position; any stencil not required passed by without printing; any stencil retained in printing position and several prints made from it if required. Elliott machines supplied with listing attachments by which sheet is automatically carried through while list of names and addresses is printed down it.

Automatic Selection: electric machines supplied with automatic selector; instead of operator watching colours or marks on stencils, skipping those not required, machine will do this automatically. Hand and electric machines supplied to feed both envelopes and stencils automatically.

Double-headed Flat-Pad Electric Machine: prints from two stencils (or portions of two stencils) at each impression if required; by suitable pads lower portion of one stencil printed in alignment with upper portion of same stencil.

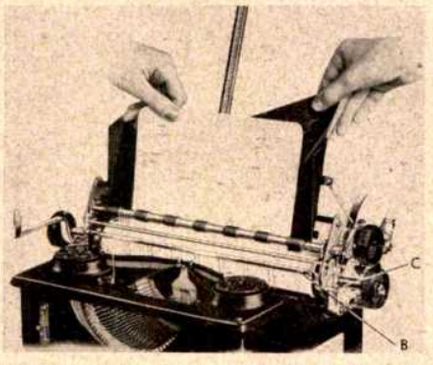
HOBBS, HART & CO. LTD., 76, Cheapside, London, E.C.2.

"Progress A" Safes: all-bent corner, fire, fall and thief resisting. Body ¼ in. thick, British steel plate flanged, bent cold, welded solid at mitres and corners; door frame, with double rebates all round, seal interior against fire; door, ½ in. thick, increased to 1 in. thick at lock; lock, unpickable 7-lever with key in duplicate. Safes tested 2 hours in furnace; maximum temperature, 2,200F.; maximum temperature inside safe under test, 155F.; books, papers, etc., undamaged.

IMPERIAL TYPEWRITER CO. LTD., East Park Road, Leicester.

Model 50 Standard: incorporates feature of interchangeability of type unit, carriage and platen, enabling machine to be fitted with wider carriage or different style type at a moment's notice. Has 90-character keyboard, smooth, speedy carriage return, etc.

Quiet Model 55: has usual Imperial features plus keyset tabulator, new style bail bar, simplified margin setting, dust-proof ribbon covers, non-glare keyboard; carriage return, escapement, rack release action, space bar action, ribbon movement all mechanically silenced.



IMPERIAL'S BACK FEED ATTACHMENT ALLOWS CASH OR JOURNAL SHEET TO BE FED IN AND LINE SPACED INDEPENDENTLY OF ACCOUNT CARDS, ETC.

Attachment No. 101 For Model 50: top chute front feed attachment. Primarily intended for use with a printed form and several duplicate copies. Where many duplicate forms are used, inter-leaving carbons presents difficulty. Attachment is designed to facilitate quick interleaving.

Attachment No. 102: development on attachment No. 101, introducing special back feed which allows cash or journal sheet, etc., to be fed in and line spaced independently of account cards, cheques, etc.

Attachment No. 103: continuous top and independent feed. Adaption of top feed attachment for use of continuous stationery or roll forms.

Attachment No. 104: top chute with independent and front feed. Allows particulars on top forms to be inserted without them appearing on ledger sheet or inserting form into another machine, or using split platen.

"Good Companion" Portable: four-bank machine, 88 characters, incorporates all essential features of standard typewriter. Includes full-length two-colour ribbon with automatic reverse, stencil switch, right and left hand shift keys, line space adjusting lever, carriage safety lock, whole line vision.

Simplex Accounting Machine: three-purpose accounting machine for invoice and statement writing, statistical reports, writing and addition of columns of figures.

INTERNATIONAL COIN COUNTING MACHINE CO. LTD., 133-141, Rosebery Avenue, London, E.C.1.

Coin Counting Machines: power and hand operated. Count mixed silver and copper coins, also tokens. Can be equipped to stop automatically at predetermined figures to suit customers' "bagging". Mechanical sorting device supplied for larger machines to count and separate coins into denominations. Hand and power sorting machines supplied separately.

Letter Opening Machines: electrical or hand operated. Electric machine can deal with one thousand letters per minute.

See this firm's announcement, cover ii.

INTERNATIONAL OFFICE MACHINES RESEARCH, LIMITED, 154, Fleet Street, London, E.C.4.

The Office Machine Manual: combined monthly reports and free inquiry service included in the annual subscription to this publication give unbiased, accurate and full information on office machines and equipment. Subscribers receive annually a loose leaf binder in which to file the indexed pages from the monthly reports, and are also entitled to ask for information and advice of a reasonable nature without extra charge. The monthly machine reports enable the prospective user to compare the different models and to form his own conclusions. New machines and devices are described immediately and enable the subscriber to keep in touch with the latest developments.

A unique feature claimed by the Editors is that they work in close collaboration with associate companies in Holland and U.S.A. and are kept informed of all Continental and American developments, while over twenty experts in all three countries are constantly testing and reporting on standard and new equipment for the benefit of subscribers all over the world.

See this firm's announcement, page 39.

INTERNATIONAL TIME RECORDING CO., LTD., 112, Strand, London, W.C 2.

The International Automatically Supervised Electric Time System: includes wall clocks, time recorders, job time recorders, programme equipment and time stamps; all operated and controlled by central unit; ensures uniform time throughout building. Exclusive feature is automatic supervision; master clock, which is central control, sends out an electrical impulse once every minute; every hour master clock definitely supervises and checks time shown by all units; this eliminates costly manual supervision, ensures perfect time uniformity of all units.

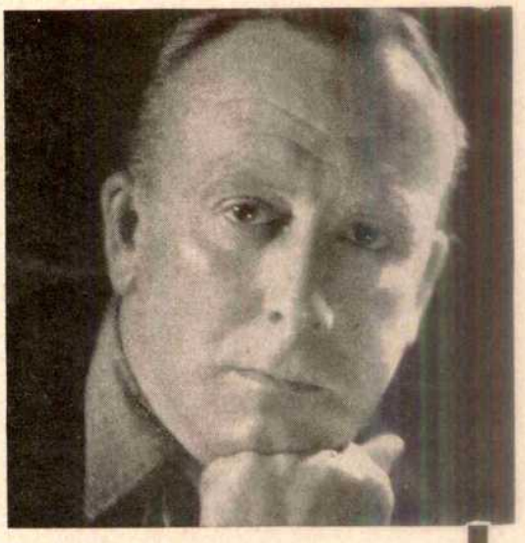
All-Mains System: master clock has reserve of power and would keep correct time during supply failure; immediately current returned master clock would "step-up" units to correct time.

Most International units can also be supplied, equipped for operation as separate units on A.C. supply, controlled frequencies.

International Super-automatic: records and automatically tabulates without manual supervision or possibility of overstamping; effects easy analysis of times recorded. Two-colour arrangement automatically indicates late and overtime records in red, distinct from ordinary records in blue; brings out records that should be dealt with. Most important element of job costing, namely job timing,

SERIES No. 2

S.P.B. Mais speaking . .



CARRY YOUR BAG, SIR?

"There are people, I am one, who always prefer to carry their own bags. It is false economy. It tires me out, I have no free hand for my ticket, I lose my train of thought. I save sixpence to lose a sovereign.

The wise man refuses to fritter away energy that ought to be kept for the great occasion.

Learn how best to apportion your time and you have learned the secret of success in life. Time is not only to be spent. It is also to be deputed. Your business will only run smoothly when you let the machine take over the largest possible share of your work.

And that is the great virtue of Remington Accounting Machines. They leave you and your staff free for the constructive brainwork by which alone a business house conquers fresh fields and expands successfully."

S. P. B. Mais

A SINGLE MACHINE CAN BE APPLIED TO ONE OR MORE OF THE FOLLOWING OPERATIONS

- Invoicing
- Receipts
- Analysis
- Adding and Listing
- Ledger Posting
- Statements
- Payments
- Wages
- Costing
- Stores Records
- Hire Purchase
- Registrar's Department Work

NO OTHER MACHINE, AT ANY PRICE, GIVES YOU ALL THESE FEATURES

- 1. Complete electrification of all alphabet and numeral keys, and of carriage return.
- 2. Complete flexibility of registers, providing extra accumulations without rebuilding or making machine obsolete. Number of additional registers limited only by length of carriage and capacity of registers.
- 3. All registers visible for columnar accumulation and cross computation. All registers equipped with direct subtraction, providing contra-entries within specific column, and instant correction of errors.
- 4. Automatic tabulation and interchangeable form bars.
- 5. Complete visibility of writing line, permitting instant checking of every entry posted.
- 6. Automatic line proof of each individual entry provides instant audit.
- 7. Independent control of each related form to be prepared simultaneously.
- 8. Uniform legibility of all records entered simultaneously.
- 9. Automatic locks against mis-operation.

Write for full details to Dept. J.J. 500. Accounting & Adding Machine Div.,
REMINGTON TYPEWRITER CO. LTD., 100 Gracechurch Street, London, E.C.3
BRANCHES IN ALL PRINCIPAL CITIES.
Phone: Mansion House 3333

REMINGTON
ACCOUNTING MACHINES

also exhaustively dealt with. Accurate job-time records made easily and quickly on any size or shape of card or paper; allows exact allocation of labour charges to each individual job.

International Electric Time Stamps: record exact day, hour and minute, month and year, at finger's touch; no levers to manipulate; by inserting paper, record is made.

International Ticketograph: for controlling production (planning, progress, stock and wages) of any manufacturing process paid for at piece-work or time-work rates. System consists of Ticketograph machine and tickets suitable to requirements of users. By manipulation of keys upon machine, tickets, which include perforated pay or production vouchers, are printed to show order numbers, style numbers, quantities, piece-work rates and, in case of time workers, code values. Tickets enable progress, production and stock to be controlled; vouchers act as pay tickets for piece-workers, records of production in relation to wages paid to time workers.

Electromatic: electric writing machine; ninety-nine per cent of usual labour and effort of typing is transferred from fingers of typist to small electric motor; fatigue reduced to minimum. Machine will produce as many as twenty to twenty-five perfect carbon copies; stencil cutting is no problem for experienced or inexperienced operators; continuous forms are easily adapted to it.

PERCY JONES (TWINLOCK) LTD., Chansitor House, Chancery Lane, London, W.C.2.

Machine Accounting Equipment: manufacturers of Twinlock Loose Leaf Books have designed equipment called Post Haste. Device provides for accounting machinery need of front feed; sheets have unbroken edge; feeding edge devoid of punching, etc.

Rubber-bound Books: rubber edge feature now incorporated in Twinlock line. Consists of dovetailing, on wearing edge of covers, a thick rubber tread; protects desk, prevents damage to binders. Improvement first used on Twinlock Vulcan Thong ledger binder. Another improvement is that Twinlock ledger sheets have series of compressed grooves down binding edge; enhances flat opening of sheets, strengthens paper at hinge.

Thong Ledgers: Vulcan Thong binder for ledgers and books. Sheets added or removed quickly; lies flat upon desk, gives every sheet flat writing surface; minimum holding capacity, one sheet. Another thong binder is Sentinel, used where something not so fine as Vulcan is required.

Steel-back Ledgers: Twinlock Capacity Plus allows withdrawing from covers of leaves en bloc, together with posts, in a moment; great advantage when sheets inserted or removed; perfect alignment.

Visible Records: Visible Indexing; thousands of items of important data stored in visible binders, yet available for instant reference.

See this firm's announcement, page 37.

SAMUEL JONES & CO. LTD., Bridewell Place, London, E.C.4.

"Lightning Automatic" Sealing Machine: two models, Standard and Double Throw for use in office, warehouse and shops; take tape wound glue outside; one motion needed to dispense exact lengths of tape, at one inch intervals, from 2 to 8 in.; automatic moistening and cut-off. Standard model for tape up to 2 in. wide, giving maximum cut of 8 in.; Double Throw model for tape up to 2 in. wide, giving maximum cut of 16 in. Models with or without covers.

"Counterboy 'A' and 'A 1' ": for container and carton sealing; take tape up to 800 ft. long, wound glue inside, 3 in. wide; brush damping. In one motion cuts, damps and dispenses any exact measurement of gumstrip. For very thin gumstrip and narrower than 2 in. "Counterboy A1" model is suitable.

Other Sealing Machines: "Better-pac" sealer; delivers tape in any length up to 50 in.; 4 in. width. "Power Baling" sealer; takes standard roll tape up to 12 in. wide; includes A.C. single-phase motor and heater, suitable 200-230 volts; also supplied for any standard voltage. "Tape Shooter": for high speed carton and container sealing; dispenses and damps any length of gumstrip up to 30 in.; twin visual sealer for varying or repeated lengths; automatic knife; double brush damping. "New Wyda" sealer: takes Balestrip sealing tape any width up to 12 in. by 800 ft. "Super 6" Baling sealer; takes gummed tape up to 6 in. wide. "Super 12" model takes up to 12 in. wide tape. "Bridewell" sealer: takes tape up to 2 in. wide; model size larger takes up to 3 in. tape width. "Commercial" sealer: various models take tape from 1½ in. to 4 in. wide.

Firm Supplies Also: various gumstrip sealing tapes; label dampeners; parcel carrier moisteners; special packing outfits, etc.

KALAMAZOO (SALES) LTD., Northfield, Birmingham.

Model R Binder: book of new material invented by Kalamazoo, formed by fusing bakelized canvas with rubber; results in binder which is unbreakable; resilient rubber edges will stand hard wear; cannot damage desk.

Model A Binder: available in variety of binding materials.

Model M Binder: covers are of metal used in aero construction; stronger than steel, lighter than aluminium; binder is virtually indestructible. In addition to ledger type, Kalamazoo range includes lighter loose-leaf binders for all subsidiary purposes.

Kalamazet Binder: thong and can principle; useful for all subsidiary purposes where light and compact binder is required; special type available for vanmen, meter-readers, and other out-of-doors users.

Noretta Binder: thong principle; useful for price books, loose-leaf catalogues, etc., will bend; can be rolled up handily for pocket.

Popular Binder: primarily to receive "dead" matter from current books; fills need for strong, light book for other purposes.

Machine Accounting Equipment: book-form and tray-type ledger equipment of efficient and original design available.

Double-Fast Accounting Equipment: book and card tray. For reference and for all other purposes than posting, account sheets securely gripped in binder mechanism. For posting, simple release is used; converts book into compact card tray. Principle gives security; anyone can refer to it, but, to all except operator it is bock from which accounts cannot be removed. Binder principle is speedy, saves office space. For example, Double-Fast installation shows more than 50,000 accounts accommodated in 39-inch square of floor space; each account always within reach of seated operator. When released for posting each unit is small, compact card tray; high posting speed maintained without fatigue. Equipment equally efficient for any kind of accounting machines.

Card-Fast: designed for machine accounting alone; consists of tray of cards, specially patented design; cards, except during posting and reference, are stored horizontally; compressed by their own weight; curling and bending avoided; cards of lightweight material satisfactorily employed, costs reduced. Lightweight cards offer increased capacities, allow facilities for extra copies. Large capacity trays, housed directly in cabinet are opened by single action which automatically shifts cards from flat to upright position; cards instantaneously accessible; reference speedy. Tray units, although large capacity, are easily portable; transfer from cabinet to machine quick, easy operation; tray unit securely hung on special stand, separate unit or fitted to accounting machine; remaining tray units in cabinet accessible to the rest of staff for reference purposes.

High posting speed continuously maintained without fatigue; accounts within easy reach of seated operator; posting "V" ensures rapid return of cards to correct place.

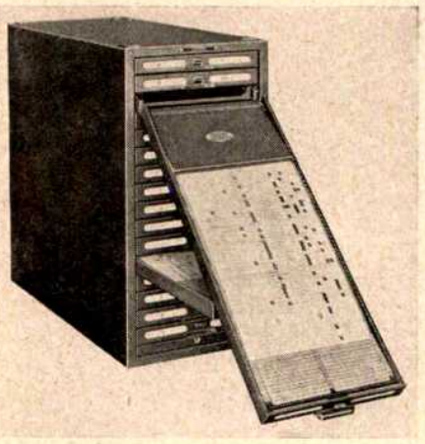
Kalamazoo supply also efficient range of complementary equipment which includes quickly separated sets of forms and continuous stationery, range of 13 well-marked shades of paper and cards in 7 different weights.

Visible Recording Equipment: book for pen-posted accounts; shows many titles at each opening, gives speedy reference to any account. Visible edge used for "signalling" important information.

Visible Strip Index: book for indexes from one-line to five-line typed or written entries; take any number of strips up to 8,000; easy removal of old strips and insertion of new ones, whilst preserving correct index order.

KARDEX (Library Bureau, Ltd.), 1, Leadenhall Street, London, E.C.3.

Kardex Visible Records: promote clerical efficiency, reduce management control to simple proportions. Used for Sales, Stock, Ledger and specialized records in every trade and profession. Interlocking



KARDEX VISIBLE RECORD CABINET

pockets, rapidly manipulated, give clear visibility, protect the record and retain signals securely. Visible titles give speed; posting effected without removal of card. Signals indicate action due. Kardex principle is simple to install; consultation with the Company's trained specialist ensures the scheme fitting individual management needs.

Kardex Indexing Equipment: four main types: (1) Linedex, with laminated wood paper-faced strips, ganged together for easy typing, sprung into light metal panels mounted on desk or wall brackets or rotary stands; Houses 100,000 references on stand; (2) Interlocking Tube, has transparent protective sheath for each strip,

PRIMUS GIVES YOU 22 CARAT-TIME

The value of time to you is governed by output in a given period.

You cannot get full value from your employees if part of their time is taken up in non-productive labours, however hard-working they may be.

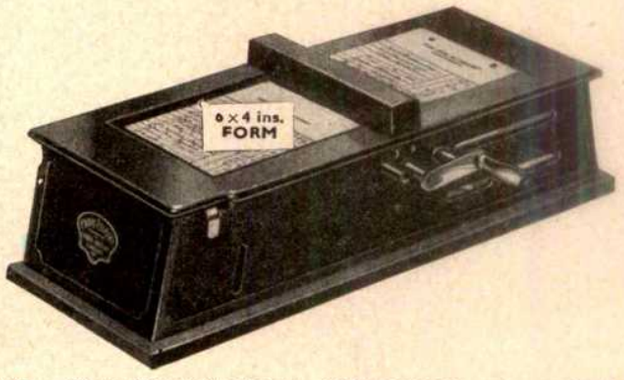
Your stenographer, for example, may be conscientious and hard-working plus—*and yet at least* 30% *of her working time may be dead loss to you.*

Unless she uses the correct stationery, she is bound to waste that much time and energy on all repetitive record-work such as invoicing, works records, inter-department notes and records, etc.

The correct stationery for all such typewritten record-work of which a number of carbon copies must be kept is

PRIMUS
CONTINUOUS STATIONERY

in conjunction with the continuous form attachment which fits any typewriter. Its use ensures the elimination of all non-productive operations such as insertion and removal of forms, inter-leaving carbons. By cutting out these irritating and fatiguing tasks, it preserves energy and concentrative powers, and also ensures 100% accuracy. You will find it justifies our claim to give you "22-carat" operator-time.



FOR HANDWRITTEN RECORDS the **PRIMUS** Autographic Register for use with Continuous Stationery ensures the same speedy, smooth operation, while a copy automatically locked in the machine provides your auditor with a check on each transaction.

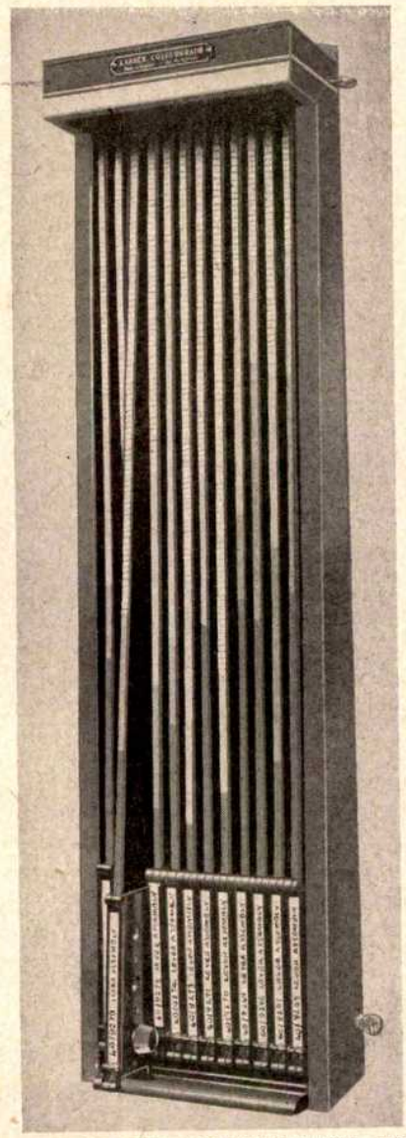
Carter-Davis Ltd.

Queen Elizabeth Street, London, S.E.1
Telephone - - - - - - - - - *HOP* 0204-5-6

ideal for usage and public reference; (3) Index Visible, permits typing additional matter below visible margin; (4) Chaindex, consists of small cards chained together in Kardex pockets. Cards may be compiled from addressing plates and code classification made by signals.

Planning Devices: Horizontal Planner simplifies allocation of work to machines and departments; Vertical Planner builds up all known forms of bar charts simply, flexible in adjustment, limitless for all graphic statistics.

Kardex Tri-Colourgraphs: hold 12, 24 or 36 charting units. Each fitted with three



KARDEX TRI-COLOURGRAPH FOR VISUAL CONTROL

transparent coloured strips projected over scales by thumb-wheels. Settings are positive, rapid and tamper-proof. Sales, Production and Financial results shown automatically as you set coloured strips.

Kardex Vertical Visible: equipment for accounting machines. All titles visible, is self-guiding; can be expanded at any point, shows outstanding debits at sight and classified follow-up of overdue accounts. Absent cards automatically signalled "Out"; misfiled cards immediately detected.

Safe Equipment: specially designed certified fire-resisting safe cabinets; protection for vital records.

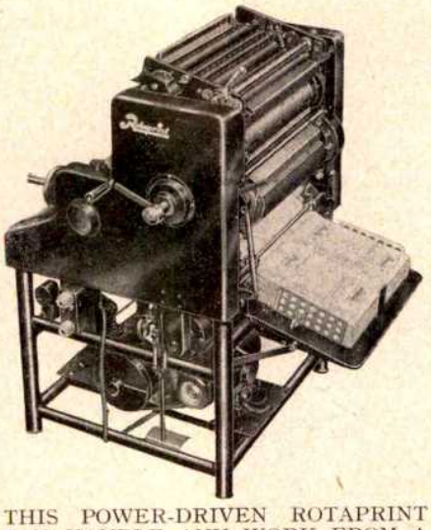
See this firm's announcement, page 51.

KAYE'S ROTAPRINT AGENCY LTD., Cecil House, 57a Holborn Viaduct, London, E.C.1.

Offset Litho Printing and Duplicating Machines: power operated Fully Automatic Standard RKI Model; paper size up to 14 by 9 in.; thickness from 11 lb. Bank to 8-sheet card, any texture; 4,000 impressions an hour. Automatic features: damping, inking, paper feed, cut-out, drive, etc.

Double-Width Fully Automatic R30 Model: power operated, paper size up to 20 by 14 in.; thickness from 9 lb. Bank to 4-sheet card, any texture; over 5,000 impressions an hour. Automatic features: suction feed, damping, inking, side lay, cut-out, joggers, vernier adjustment to head and tail lay, drive, electric motor; guaranteed "hair-line" register, etc.

Combined Automatic Sheet and Roll Feed RS Model: power operated, automatically feeds from sheets in stack, or paper automatically cut from roll, at 6,000 im-



THIS POWER-DRIVEN ROTAPRINT CAN HANDLE ANY WORK FROM A SIMPLE MEMO TO A MULTI-COLOURED FOLDER

pressions per hour; paper size 8¾ by 11¾ in.

Large Combined Automatic Sheet and Roll Feed RGs Model: power operated, paper size 17 by 11¾ in.; similar to RS model.

R50 Junior Printing and Duplicating Model: paper size up to 14 by 9 in.; 3,000 impressions per hour; automatic paper feed, motor, etc.

All models produce single and multi-colour work; simply operated; can be used by any junior after a few days' training.

Service: Offset litho machines backed by service to prepare master sheets. Company have service factory of over 30,000 sq. feet, employing over 250 technicians. Departments include: Photographic studio with over £2,000 worth of cameras; Typesetting with all modern faces of type; two Monotype casters and two keyboards; platens for printing type direct on to master sheets, etc.; Photomechanical; Stone and copper plate; Mechanical; Binding, Perforating, stitching and all services incidental to printing trade; Paper department.

See this firm's announcement, page 41.

KODAK LTD., ("RECORDAK" DIVISION), Adelaide House, King William Street, London, E.C.4.

"Recordak": consists of camera unit and projector unit; documents of any length, but not exceeding 10½ inches width, when fed into camera unit are automatically photographed in miniature on long strip of Kodak film 16 mm. wide. If two copies of all documents required, two films can be run simultaneously side by side. Operation simple; no photographic knowledge required; dependent only on manual dexterity of operator in feeding documents into machine. Cheques, for instance, can be photographed at speed of 4,000 an hour. Apparatus includes number of safeguards against operative errors and waste of film. At any time whole or part of film can be unloaded in daylight, sent to Kodak depot for development; all-night development service. One hundred feet of film will bear copies of 2,300 documents 10 by 10½ in., or if originals are smaller number copies can be 6,600. Solves storage problem; compared with same size paper copies, film saves on average 99 per cent of storage space.

"Recordak" projector unit is used for reference to film records. Appropriate roll of film placed in machine by which copies are displayed in same size as originals; every detail and marking on original shown.

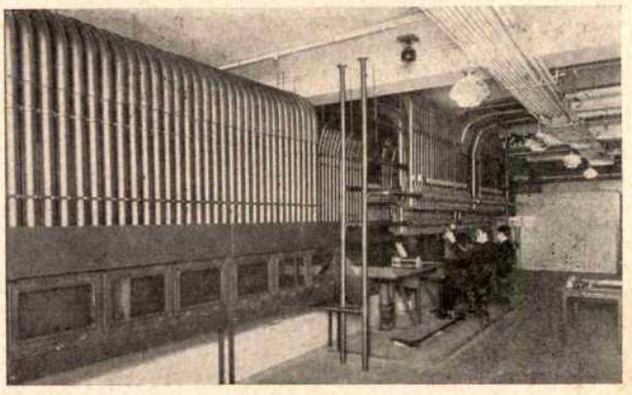
LAMSON ENGINEERING CO. LTD., 132, Cheapside, London, E.C.2.

Despatch Tubes: system of steel tubing connecting any number of points (or stations); carriers for holding documents, small parts, etc., travel through tubes at high speed; Lamson turbine provides air suction power. Double tubes between stations allow carriers to be sent and received at the same time. Push-button control supplied for operating systems of few stations but larger installations require continuous running plant. For intercummunication between many stations, carriers usually redirected at a central station. Central sorting can, however, be eliminated by an electrically-operated switch system.

Document Conveyors: Conveyor of "V" section, two sides being of hardwood or metal; bottom formed by continuous moving belt.

Overhead Wire Conveyors: hand and electrically operated lifts for use in offices and factories.

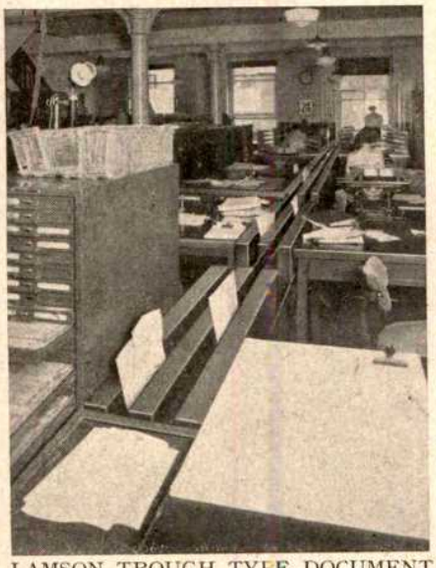
Designers and Constructors of: conveyor, hoist, chute, air conditioning, ventilating,



THIS LAMSON TUBE CONVEYOR IS THE LARGEST INSTALLATION IN THE COUNTRY. CARRIERS ARE RECEIVED FROM STATIONS ON TO A MOVING BAND, CARRIED ALONG TO DISPATCHERS AND THERE DIRECTED TO DESTINATION SHOWN ON THE CARRIER INDICATOR

heating, dust collection, fume removal, etc., plants.

Industrial Vacuum Cleaners: portable machines for one, two or three operators.



LAMSON TROUGH TYPE DOCUMENT CONVEYOR, BOTTOM OF TROUGH FORMED BY A MOVING BELT

Fixed plant; tubing radiates through floors and walls. Plants can accommodate any number of operators working simultaneously.

LAMSON PARAGON SUPPLY COMPANY LTD., Paragon Works, Canning Town, London, E.16.

Carbon-copy Books: duplicate, triplicate and quadruplicate books for use in shops, stores, hotels, factories, etc.; used wherever written record is necessary.

Continuous Stationery: Fanfold, Interfold and carbon interleaved stationery for use with business machines of all kinds; also special continuous stationery for teleprinter installations.

Parabar Typewriter Attachment: device converts an ordinary typewriter into a billing machine capable of using continuous stationery.

Loose-Leaf Books: all kinds of loose-leaf binders, leaves, etc.

Paragon Register: a machine using continuous stationery; operated by lever, a much quicker movement than the usual crank. When lever is pulled, forms are issued, next form set moves into writing position, and one or more unalterable carbon copies are filed in locked security compartment. Machine is used where speed of issuing, coupled with security for written records, is required.

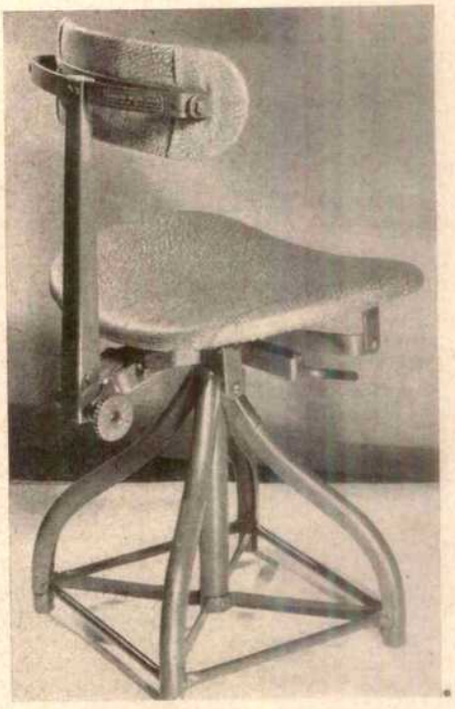
LANCASTER BROS. & CO., Shadwell Street Works, Birmingham.

Envelope Specialists: Red Seal pay wallets. Rubber automatic sealing, no damping required, only need folding. £ and 10s. notes project for checking but cannot be removed without opening the wallet, which is impossible to reseal without detection. Coins are checked through perforations at back of wallet. On front of envelope is printed details of wages, deductions, etc. Responsible executives can obtain supply of wallets *free of charge* to carry out one week's test.

See this firm's announcement, page 46.

LEABANK CHAIRS LTD., 56, Kingsway, London, W.C.2.

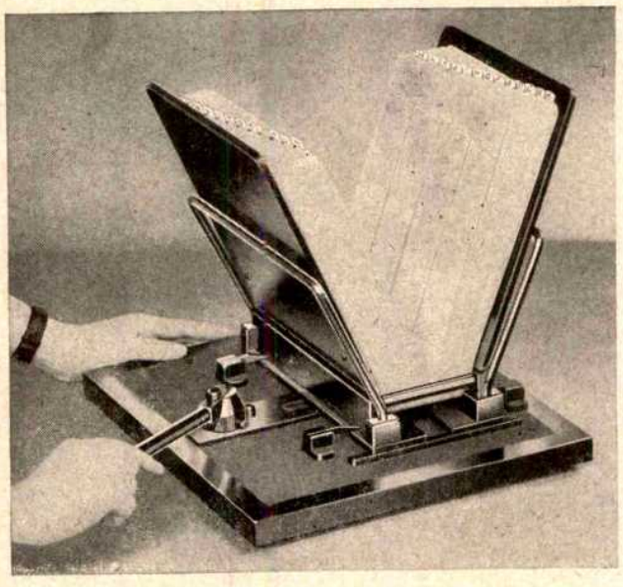
Office Chairs: posture-correcting; telescopic or screw height and double-hinge backrest adjustments. Revolving seat with alterable tilt; braced steel framework; domes, renewable rubber feet, castors, and footrests, as required. Seat



LEABANK'S MODEL MC OFFICE CHAIR

heights from 14 in. to 34 in. Standard office model is padded with high-grade needle-loom felt; Secretarial Chair is

No more torn or damaged Sheets or Statements



IF YOU USE *Twinlock*

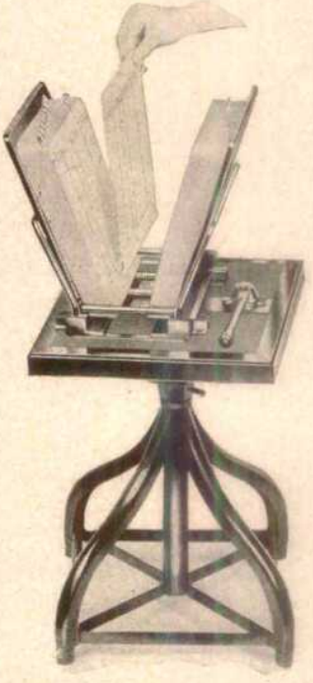
POST-HASTE *Machine-Accounting Equipment*

This outfit will enable you to reap the full advantages of a mechanized accounting system.

Twinlock Post-Haste Ledger Sheets are specially designed to speed up and make smoother machine-posting.

The unbroken feeding-edge eliminates fouling or tearing of sheets in the machine. It also enables the operator to feed sheets into the machine more rapidly.

The Twinlock Binder allows ample room for expansion and secures the sheets and statements in perfect alignment.



Our special Advisory Department is at your disposal, gratis, at any time for all machine-posting problems.

PERCY JONES [*Twinlock*] LTD.

CHANSITOR HOUSE . CHANCERY LANE . LONDON . W.C.2

mechanically similar, but cushioned with Dunlop latex rubber. Luxury class is Senior Office model with height limits 18 in. and 23 in., coil spring or Dunlopillo seating; Executive chair, similar but has padded arms and a general refinement. All models manufactured in brown, leaf green, olive or black rexine, brown or leaf green moquette, wulatex or hide; other finishes supplied.

Factory Chairs: range from simple, non-adjustable, backless stools to fully-adjustable, revolving chairs, in seat heights from 14 in. to 34 in. Obtainable with plain wooden or rexine upholstered seats, or scientific form-fitting seats; strongly built; model for every purpose.

See this firm's announcement, page 54.

MAGOWAN & CO. LTD., 7-8, Stationer's Hall Court, London, E.C.4.

List Finder; desk pad for finger-tip control; springs open at touch to any letter. Cards have 1,380 spaces for 'phone numbers; names, addresses, price lists, rates, formulas, customers' lists, etc. Silver finish; metal base with rubber feet. When used as firm's advertising gift, transfer affixed to top with firm's advertising matter.

Pareelads Self-printing Tape Machine: prints as it seals, cuts packing costs (one foot of tape can be made to do work of seven feet of string). Seals parcels against dust, dirt and pilferage, eliminates untidy ends. Tapes supplied 1 to 3 in. widths. Machine prints any type of simple announcement on tapes or will issue and seal with plain tape.

Company Also Supplies: business machines of various kinds for use in office or factory. Range includes: letter openers, envelope sealers, folding machines, stamp fixers, staplers, etc.

See this firm's announcement, page 45.

MASSON SEELEY & CO. LTD., 14, Howick Place, Westminster, S.W.1.

Unit for Producing "Point of Sale" Display Matter: process of colour-printing specially suited to short or medium runs (up to 5,000). Particularly effective for production of showcards, cut-outs, window-bills, etc. Unit is operated by user's staff under his own control. Produces first class results with time saving of at least 500 per cent and saving in cost from 30 per cent to 60 per cent. Equally effective work on card or paper, wood, leather, silk, satin, velvet, *crêpe de Chine*, celluloid, cellophane, ebonite, and by indirect process, glass. For all classes of work economic production minimum is *one*. For retailers whose requirements seldom call for repetition work a unit specially suited for production of individual cards is available.

Products are backed by service, including studio, training and periodical supervision of operators, commercial research and advisory service, etc. Masseeley Users' Magazine, a bi-monthly production written to assist users, is circulated free.

See this firm's announcement, page 65.

MATTHEWS & SON, LTD., 16-18, Yates Street, Aston, Birmingham, 6.

Manor Filing Cases: for storing old correspondence. Eliminates use of expensive equipment for filing "dead" matter, etc.; abolishes untidy paper parcels.

See this firm's announcement, page 52.

MERCEDES STERLING BOOK-KEEPING & CALCULATING MACHINES, LTD., Mercedes House, Thavies Inn, Holborn Circus, London, E.C.1.

Sterling Book-Keeping and Calculating Machines: accounting mechanism and typewriter section on all Mercedes machines operated by electric motor; touch is one-fortieth that of manual machine; perfect impression, irrespective of operator's characteristics; pressure gauge on front of machine can be altered when required to compensate for extra copies or thickness of cards, etc.; lightness of touch not affected.

Complete visibility; extended line finder enables operator easily to read work done; line-up judged from whole of printing on sheet.

Carriages: in addition to specialized carriages such as Contabil and Double Carriage, front or back feed carriages available in many widths. Auxiliary ribbon supplied; exclusive patented device; combination of standard ribbon with auxiliary produces ribbon impression on statement, duplicate statement and ledger card, eliminating use of carbon paper. Two auxiliary ribbons producing five ribbon copies can be fitted; this arrangement particularly suitable for order sets, invoice and other multiple forms. Accounting section has 12 figure keys only, arranged that fingers, after short time, fall naturally into key positions, visual selection unnecessary; blank key tops often specified.

Double balance registers, obtainable on all models; common for monthly, progressive and turnover balances to be given in one line of work. On "B" class machine possible for registers to be used in variety

THE MERCEDES ALL-ELECTRIC TYPEWRITER

of combinations, such as both sterling or both currency, one sterling and other currency, sterling and quantity or both quantity.

Direct subtraction: in every register; correction of errors simple; items entered in direct subtraction printed in oblique type; easily distinguishable.

Star proof ensures accuracy of all results; this feature on full accounting machine is entirely automatic.

"B" Class General Model: adaptability enables model to be applied to almost all accounting requirements; from straightforward ledger posting, with 2 vertical totals and cross adding mechanism, to columnar analysis extending over 25 or more headings.

"Plex" Class: five different models; primarily for handling straightforward ledger work; enables debits and credits to be posted and up-to-date balances produced as easily as typing a letter. Automatic balance feature.

"B" Class Double Carriage Model: specially for stockbrokers' work such as contract notes; pay-roll; applications requiring simultaneous production of vertical docket with horizontal columnar analysis. Model's two carriages work simultaneously but independently of each other; smaller moves up and at same time across larger carriage; spacing automatic.

"B" Class Contabil Model: feed, spacing and ejection all automatic; irrespective of number of lines on previous form, up to certain maximum, machine will, upon completion of form, space up automatically to first writing point on following form.

Continuous Form Machine: electrically operated keyboard; pressure gauge enables many copies to be taken at one typing without additional operative effort.

See this firm's announcement, page 39.

MERCEDES TYPEWRITER CO., LTD., Mercedes House, Thavies Inn, Holborn Circus, London, E.C.1.

Electric Typewriters: claims 30 per cent more output at same labour cost, especially with continuous stationery, 20 carbon copies obtained in one operation.

Standard Typewriter Model 6: automatic key-set tabulator; 90 character keyboard; individual touch control gives maximum comfort to operator at minimum cost; easily dismantled into three main parts (carriage type unit and frame), simplifying regular inspection and cleaning; carriage and type basket interchangeable.

"Selecta" Portable: dual-action; streamlined; four bank standard keyboard; complete with case.

Popular Portables: have standard four bank keyboard. Two models: "Prima" with single colour ribbon; "Superba" with two colour.

MILNERS' SAFE CO. LTD., 12 and 13, Newgate St., London, E.C.1.

Lockers and Cupboards: clothes-locker combinations; accommodation for 8 persons in half normal space needed. Fire, damp, vermin and pilfer proof; consist of 8 private, 2 wardrobe compartments; doors louvred for ventilation; usual fittings. Pigeon-hole cupboards for catalogues, stationery, etc. Doors reinforced and secured by 3-way bolts, 6-lever locks; single door cupboards divided by upright partitions into 2 compartments 12 in. wide; double door models divided into 3 compartments either 10 or 12 in. wide; additional adjustable shelves as needed. Range of models 6 ft. high, 18 in. deep, varying in widths from 24 to 36 in.

Filing Cabinets: "Mersey" model; quarto and foolscap types both have 4 drawers; former weighs 205 lb., latter 224 lb. Exterior dimensions, quarto: 52 in. high by 16¼ in. wide by 24⅝ in. deep; foolscap: 52 in. high by 19¼ in. wide by 24⅝ in. deep. Filing space per drawer: quarto, 20¾ in.; foolscap, 20¾ in. Card Index cabinets: dust, vermin proof; drawers have compressor guides, giving simple adjustment for card filing. Models: one to 8 drawers; three sizes for card filing; cards 5 by 3 in.; 6 by 4 in.; 8 by 5 in.

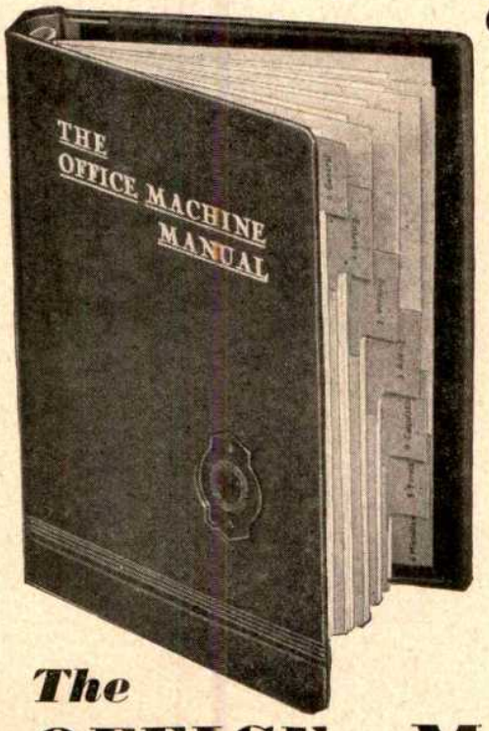
"Mersey" Desks: single and double pedestal models; desk top sizes 48 by 34 in. and 60 by 34 in. respectively. Single type has 3 box drawers or one box drawer and one filing drawer; double type has 3 box drawers in one pedestal, one box drawer and one filing drawer in other pedestal. British steel throughout: stove-enamelled dark green.

Steel Shelving: fixed, extensible or adjustable type; open or solid backs; sections are interchangeable; reinforcement to suit requirements.

THE MISCELLANEOUS TRADING CO. LTD., 134-135, High Holborn, London, W.C.1.

Office furniture: desks, cabinets, files, general equipment, etc.: manufacturers of drawing boards, tee squares, "Quickset" drawing tables and the *"Quickset" Photographic Enlarger.* This machine is a vertical model, 19 in. by 17 in. with cross battens, finished black. Upright column is a solid steel tube 40in. in length welded to a large base plate screwed to the underside of the baseboard. Column is standard fitting, enabling big enlargements to be made: 7 diameters or about 20 by 15 in. from a 3½ by 2½ in. negative. Any good lens of 4 or 4¼ in. focal length can be used.

The Leading Authority on Office Machines & Equipment



The Office Machine Manual—published monthly in loose-leaf form—gives complete and unbiased information on existing appliances and keeps abreast of current developments. Its surveys are world-wide, being conducted in collaboration with similar organisations in America, and on the Continent.

A strong binder, sent annually to each subscriber, enables the loose-leaf pages of the Manual to be filed for easy and permanent reference.

In addition to the monthly reports, subscribers are entitled to ask the editors for any reasonable information on any kind of office machine or appliance. All such enquiries receive prompt and expert attention.

First Subscription £4 4 0 (includes monthly reports from September 1936 to December 1938 with binders).

Annual Subscription thereafter £2 2 0.

The OFFICE MACHINE MANUAL

Editors: International Office Machines Research, Limited, 154 Fleet Street, London, E.C.4
Publishers: Gee & Co. (Publishers), Ltd., 6 Kirby Street, London, E.C.1

MERCEDES EXPRESS

The Mercedes "Express" Typewriter is the office machine for speedy writing. Its reliability is unsurpassed — its performance is perfect under the most exacting demands. The modern design enhances the popularity of this machine. Chief among the many advantages to the operator is the light easy shift action, equal touch of all keys, simple method of platen release adjustment and the easy method of adapting the machine to all speeds, which enables the operator to attain high writing speed. The Mercedes "Express" can be supplied with carriage widths as follows: (24, 26, 30, 37, 47, and 60 cm.) 10", 11", 12", 14", 18", and 23".

MERCEDES

BUROMASCHINEN-WERKE A.G. · ZELLA-MEHLIS IN THURINGEN
GERMANY

MERCEDES TYPEWRITER CO., LTD. · Mercedes House, Thavies Inn, Holborn · LONDON E. C. 1

Two models: Standard and Model B. Latter is for miniature negatives and is a modification of standard model.

See this firm's announcement, cover ii.

MOORE'S MODERN METHODS LTD., 12, Saint Bride Street, London, E.C.4.

Loose-Leaf Ledgers and Record-Keeping Books: loose-leaf ledgers, sizes 8 by 10 in., 9 by 11 in., 11 by 12 in., 12 by 11 in., and 13 by 12 in. Various rulings. New 5 by 8 in. record forms now added to standard rulings for keeping all kinds of records and accounts.

Visible Loose-Leaf Books: "Nimblex" multi-post binder, size 14 by 9 in., displays 25 records, size 5 by 9 in. Automatic shift bar for insertion or removal of sheets. Standard rulings for many routine records.

Multiple Sets of Forms: "Duplicata" method ensures register of typewritten details. Sheets of set are gummed together. After all forms in set are typewritten (one operation), gummed margin is torn off at a fine perforation, leaving no trace of gumming. Suitable for all systems that need carbon manifolding.

Machine Accounting Equipment: "Moorsafe" lightweight card drawers, made in skeleton form from a special aluminium alloy, rest on triple slide extension arms fitted in fire-resisting safes or cabinets. Drawers stocked in several sizes; safe can be made for any number of drawers. Capacity of drawers 1—1,000 cards.

"Fleet" steel posting trays: drop fronts, tilt compressors. Accounts, after posting, can be clamped into solid block. Non-slip base prevents cards from slipping. Capacity 1—1,000 cards. Five standard sizes. Adjustable trolleys hold two trays.

"Fleet-Rail" travelling equipment: trolley, bearing posting trays, runs on rails into fire-resisting tunnel. Finger touch brings any tray to convenient position for posting. Trolley, trays and track enclosed in locked tunnel when posting is completed.

"Moore-Visible" high speed visible machine accounting system. Unit of system is a "pack" made of "stepped" pockets arranged that edge of each pocket is visible; edges covered with transparent celluloid behind which designations are clearly visible. Signals, under celluloid strips, allow almost unlimited classification. Packs housed in trays or drawers as required, e.g., "Fleet," "Fleet-rail," "Mooresafe," etc.

*"Moorespeed" loose-leaf binder: auto*matically opens for posting when placed in "Moorespeed" tray. Sheets have straight, unbroken edges; can be inserted in any book-keeping machine. Any size from 6 in. width of sheet. "Moorespeed" combined stand and tray takes four binders; 2,000 accounts in 1 sq. ft. of floor space.

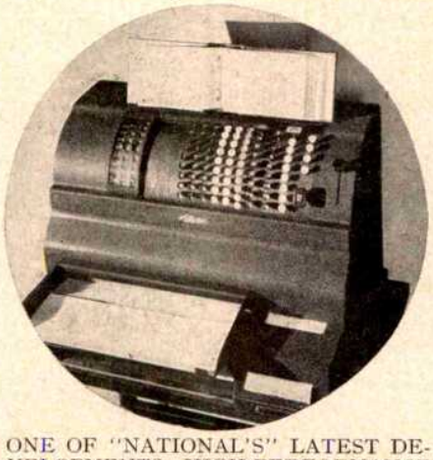
THE NATIONAL CASH REGISTER CO. LTD., 206-216, Marylebone Road, London, N.W.1.

Accounting and Statistical Machines: comprehensive range for all types of work. Latest addition is machine with exceptionally high performance on all types of billing, invoicing, ledger posting, statistical, dividend warrant and summary writing work, etc.

Two models available, the (101) or the (111); difference between the two is that latter model is equipped with subtract mechanism; feature includes fully automatic credit balance with necessary red ribbon printing. Machine specification provides following features:—

(1) All records mechanically handled. Operator has only to select documents to be posted and place them on table. Machine will automatically feed form into printing position, align it to necessary line of entry (whether it be first, last or other intermediate line on form), and select necessary column without any attention on part of operator. It therefore eliminates all hand and eye alignment and tabulating carriage. Upon completion of record machine will automatically eject forms and stack them in exactly same sequence as they were fed into it.

(2) All records printed simultaneously in original ribbon prints; no carbons necessary. Machine will produce as many as seven simultaneous original prints.



ONE OF "NATIONAL'S" LATEST DEVELOPMENTS, HIGH-PERFORMANCE ACCOUNTING AND STATISTICAL MACHINE

(3) Any width of description is obtainable.

(4) Thirty totals may be had, each provided with own item counter for recording number of transactions affecting each total.

(5) All control keys motorized, eliminating motor bar operations.

(6) Tabulating carriage and all external moving parts eliminated; separate printing mechanism provided for every column of forms.

(7) All dating automatic; automatic consecutive number may be provided.

(8) Red and black ribbon printing in any column wherever desired.

Machine measures only 18 by 20 by 27 in.; is capable of producing orthodox statement, ledger and proof sheet simultaneously in original ribbon print without use of repeat print cycles. Same applies to dividend warrant and summary, payroll, employee's history card and envelope; electricity bill and ledger card or rate demand and ledger card. The thirty totals split if required; selected by motorized key depression. No part of machine operation except putting actual figures on keyboard, is left to human element. Degree of error possible reduced to negligible proportions.

See this firm's announcement, page 6.

THE NATIONAL TIME RECORDER CO., LTD., Aquinas Street, Stamford Street, London, S.E.1.

National Time Recording Systems: comprise electric master clocks, time recorders and card time recorders. Master clocks control any number of time recorders and secondary dials; suitable A.C. or D.C. mains; bell ringing system, programme devices with automatic cut-outs for week-ends; time recorders are spring driven, synchronous drive A.C. mains or electric master clock control; card time recorders supplied for all types of time recording, job costing and shift workers

Model "A": prints in one colour; incorporates National patent check action which prevents overstamping; all cards easily checked at end of week. Model 206 prints in two colours; all irregular times automatically printed in red; combined with check action device, this ensures 75 per cent auditing on cards being done automatically. Models have automatic column adjuster or are hand operated.

Series Models: 501, 502 print one colour; 540, 550 print in two. Column selector operating "In" and "Out" lever is automatic. Models with "day indication" but hand operated in column selector are: A.1 (one colour); 325 (two colours). Without patent check action but with day wheel indication and hand-operated column selector are models 12 (one colour) and 246 (two colours).

"Clipit" Model: unlimited number registrations can be recorded day or week; suitable for checking shift workers and irregular timers. Patent duplex handle automatically locates records for "In" and "Out" or "On" and "Off," speeds up recording operation. Patent check action and two-colour printing may be fitted. Super Automatic "Clipit" model: similar to ordinary "Clipit" but no operation beyond placing card in receiver necessary.

"Light" Model: for firms with small number of employees; prints day, hour and minute. Models 14 and 241 (one colour); 142 and 251 (two colours).

"Autograph" Model: no signature can be made until time record is printed; untamperable. Available in several models including Standard Autograph and Portable Autograph.

"Universal" and "Universal Portable" Job Time Recorders: for production costing; works progress can be taken up or suspended any time, correct time record shown. Machines print on any size card or work sheet; suitable for any trade. Automatically prints month, date, day, hour and minute.

Automatic Time Stamps: prints minute, hour, date (changing automatically) month and year. 8-day lever movement or synchronized drive; all mains or master; for all purposes where portable, automatic time recorder is needed.

Key Time Recorder: simple machine to register times of staff going on or off duty during day. Engraved number key supplied to each employee; keys print number of key and time of coming or going simultaneously on roll of paper.

Radial Recorder: daily, bi-weekly or weekly time records; weekly sheet may be extended to include wages analysis; several models available. Automatic type require no setting "In" or "Out" levers. All models have two-colour ribbons, printing irregular times in red; time sheets under lock and key but inspectable at glance.

OFFICE EQUIPMENT CO., 113, High Holborn, London, W.C.1.

Office Furniture: desks, filing cabinets (wood and steel), plan cabinets, safes, typewriters, adding machines, and so on.

See this firm's announcement, page 59.

OZONAIR LTD., Longmoore Street, London, S.W.1.

Ozonizer Types 128: for deodorizing, purifying, freshening atmosphere in offices, basements, lavatories, etc., up to 2,000 to 4,000 cu. ft. Power consumption about 5 watts; equivalent 200 hours working per unit. Three models: 128S (Standard); 128D (double strength); 128DR (with regulation for 4 strengths of Ozone).

Detachable Fan Fitting: independent of ozone circuit. Power consumption 25 watts, equivalent 40 hours working per unit. Fan is for fitting to Types 128 mentioned above.

Ozonizer Types 31 and 32: for offices, etc., up to 3,000 to 5,000 cu. ft. Complete with enclosed fan. Power consumption

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25 to 30 watts, or 30 to 40 hours working per unit.

Ozonizer Types 26, 27, 26D: for offices, workrooms, etc., up to 5,000 to 6,000 cu. ft. Type 26D, A.C. only; about double capacity of Type 26. Ozone generator, transformer, etc., contained in ornamental metal base; air inlet fitted with renewable copper gauze air filter; rotary action switch for regulating fan. Power consumption 40 to 60 watts, equivalent 25 to 18 hours working per unit.

Punkah Ceiling Ozonizer: for spaces of 4,000 to 6,000 cubic feet; power consumption 110 to 130 watts. Standard blades have 44 in. sweep.

Ceiling Ozonizer: similar to Punkah model but without fan.

Portable Apparatus: for refrigerated stores, general purposes. Consists of ozonizer, fan and step-up regulating transformer. Converter supplied for D.C. Three sizes: T.N.15 and 16 for 10,000 cu. ft. spaces; T.N.17 and 18 for 20,000 cu. ft. spaces; T.N.19 and 20 for 40,000 cu. ft. spaces.

Air conditioning Apparatus: humidifiers; acts as purifier, cleans air of solid matter. Two sizes: H.I. for spaces about 2,000 to 3,000 cu. ft.; H.2 for spaces about three times that of H.1.

Air Conditioning Units: for heating, cooling, humidifying, de-humidifying, cleaning and purifying. Silent running fan; Ventex filter; Ozonair apparatus; power consumption about 120 watts. Made to any specification.

Industrial Apparatus: purifies, invigorates atmosphere in factories, warehouses, etc. Standard size capacity: 6,000 to 8,000 cu. ft. Power consumption, 80 to 100 watts.

See this firm's announcement, page 5.

PEL, LIMITED, Oldbury, Birmingham.

"Pel" Tubular Steel Furniture: for general and executive offices. factory, stores, showrooms, etc. Combines lightness with exceptional strength; easy to move and keep clean; has maximum resistance to wear and heavy usage. Slightly higher first cost counterbalanced by length of life, saving in labour, improved hygiene; in keeping with modern office architecture. Chair range includes: nesting type; nesting arm-chair; (hundreds of nesting chairs can be stacked in quick time—3 men, for instance, can stack over 400 in 20 minutes); all varieties of upholstered steel tubing chairs and arm-chairs. Office settees made in usual variety of styles. Stools, fixed or moveable, in usual styles. Steel tubing tables, all sizes for general or executive or typist use, available with wood, hide, Rexine, glass, etc., tops; double or single pedestal of drawers, etc.

POWERS-SAMAS ACCOUNTING MACHINES LTD., Powers-Samas House, Holborn Bars, London, E.C.1.

Mechanical Accounting Equipment: Fastest known method of recording data is by punching holes in cards and this is the basic principle of Powers equipment. Cards are perforated by punching machines in predetermined positions to represent specific values, quantities, descriptions, etc. They thus become permanent unchanging documents; can be mechanically classified in a sorting machine; automatically tabulated in the Tabulator. This translates punched holes into words and figures and prints the information on statements, invoices, ledger sheets, payrolls, cost statements, etc., etc.

There are three standard sizes of equipment available to suit all sizes of business and every type of work. Of particular interest are the small Powers-One machines, with their high-speed Tabulator and rapidly punched inexpensive cards measuring only 2¾ by 2 in. and *providing 21 columns of information.* Introduced a little over twelve months ago, these machines have established themselves. They have been very successful as auxiliary equipment for all rapid classification and analysis work; speed at which analysis are obtained and exceptional economy of working are the reasons.

"Powers-One" equipment is being used by governments, county councils, borough

THE "POWERS-ONE"

councils, railways, insurance companies and nationally known industrial concerns for such work as treasury accounting, market statistics, teachers' salaries, mileage statistics, sales statistics, waybill valuations, payroll deduction analysis, water billing, stock control, etc., etc. All interested in modern accounting methods would find it worth while investigating these machines.

PSYCHOLOGY PUBLISHING CO. LTD., 3, 5, & 12, Queen Street, Manchester, 2.

"Hartrampf's Vocabularies" and other business books: Hartrampf's book of 540 pages provides a key to words and ideas. A unique feature is the Idea and Word Chart. Key-words and numbers in its radial divisions refer to corresponding word-groups which contain words having different shades of meaning related to the key-word. These and the alphabetical index, dictionary style, help towards wider and more accurate expression in speaking and writing.

PYRENE CO. LTD., Great West Road, Brentford, Middlesex.

"Conquest" Fire Extinguisher: soda-acid type; range of "break-bottle" and "turnover" models of 2 gallons capacity; extinguisher particularly effective on freely burning materials such as wood, paper, cloth and upholstery.

"Pyrene" Fire Extinguisher: operated by double acting rotating pump; projects powerful continuous jet of fire-killing liquid. Liquid converted into heavy cohesive vapour on coming into contact with flames; particularly suitable for protection of motor vehicles; safe against high voltage electrical short circuits. Made in "Standard" (1 quart) and "Junior" (1 pint) sizes.

"Phomene" Fire Extinguisher: projects dense blanket of foam which rapidly spreads over surface of blazing liquids; completely extinguishes flames. Operates by simply being turned upside down; sizes —1 and 2 gallon.

"Pyrene" Everyway Hose Reel: permits application of water by untrained persons; specially designed universal pulley enables hose to be run out in any direction; outward movement of reel not needed.

"Pyrene" Foam-Making Branchpipe: portable unit; generates "mechanical" foam in large quantities. F.B.2 Model used to deal with blazing oils, spirits, industrial alcohols and solvents. Capacity 650 gallons of foam per minute.

"Pyrene" Co. Fire Appliances: hand extinguishers, 2, 4, 7 and 12 lb. capacity; portable trolleys 50 and 100 lb. capacity; fixed installations to suit specific industrial requirements.

"Pyrene-Pulsometer" Trailer Type Fire Engines: two models, "W.P. 120"—capacity 120-150 G.P.M. and "W.P. 350"—capacity 350-500 G.P.M.; motor driven pumps; capable of dealing with big outbreaks; easily manœuvred into positions

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inaccessible to larger fire engines. Both 120 G.P.M. and 350 G.P.M. pumps supplied under H.M.O.W. contract for requirements of Home Office Emergency Fire Brigades Organization.

General Fire Appliances: include hose, hydrant valves, branchpipes, standpipes, couplings and other fittings for general fire-fighting purposes.

RATNER SAFE CO. LTD., 48, Bread Street, E.C.4.

Safe Cabinets: protect records from fire, contain filing drawers for 8 in. by 5 in. cards; also quarto and foolscap filing drawers and other light steel equipment. Cabinets are insulated all round; made on lines of heavy fire-resisting safes. Used as dual purpose containers, with the upper

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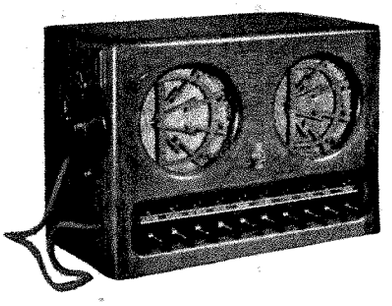

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drawers omitted. This leaves room for books, ledgers, etc.

Deposit Safes: fire, fall and thief-resisting type with trap in top, back or side to hold money wallets. Trap so designed that wallets must be ejected into bottom of safe before trap will close. No wallets can be recovered until main safe door is opened. Traps are sometimes fitted with locks, in which case every depositor holds a key. Standard size wallet is 8 in. by 7 in by 3 in.; other sizes can be accommodated.

THE RELIANCE TELEPHONE CO. LTD., Goschen Buildings, 12-13, Henrietta Street, London, W.C.2.

Specialists in Manufacture: and installation of telephone equipment of every description, person finder systems, alarm and signalling equipment, etc. Feature is provision of complete installations on rental basis, saving need for capital expenditure, maintenance cost, etc. All installations carry 14-year guarantee of efficient service.

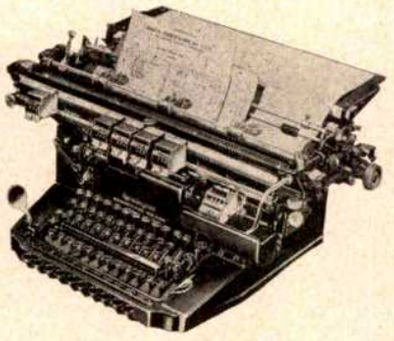
Loudspeaking and Intercommunication Telephone Systems: push-button type, from two lines upwards. Conversation can be carried on without holding receiver—reply is heard aloud. Loudspeaker "cut-out" when privacy is required. Light signals show on master station who is calling. Priority is provided for main executives. Full intercommunication is obtained throughout system. Made in various standard and special finishes to match furniture and decorations.

Private Automatic Exchanges: made in various sizes. Apart from full intercommunication and secrecy, can incorporate executive's right-of-way, loudspeaking and person finder facilities, conference calls, etc. Particular feature: only two wires required to each instrument, no matter how many lines connected to system.

Company's experts are available to advise or assist in the drawing up of schemes or preparing estimates. This service is available free of charge.

REMINGTON TYPEWRITER CO. LTD., 100, Gracechurch Street, London, E.C.3.

New Model Noiseless: 23 mechanical improvements including pressure printing device on all type keys to eliminate noise; needs only one-third effort to operate compared with standard machines. Attachments supplied for continuous stationery, record cards, carbon ribbons for hectograph work, etc.



MODEL 124, ONE OF THE CROSS ACCOUNTING MACHINES

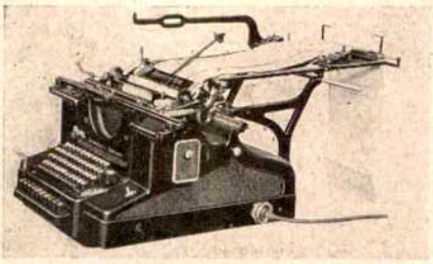
Model 16 Standard: drop-spoon carriage return lever; dustproof ribbon spools; margin release on centre of carriage scale; simple tabulator central above the keyboard. Attachments for continuous stationery, index cards, stencils, etc.

Models 30 and 31: similar to Model 16 with addition of 10 key decimal tabulator. Column position stops operated by two keys, one selecting stops as required, the other clearing them. Model 30 has standard 88 characters, Model 31 special 92 character keyboard. Both machines have usual style types and language keyboards.

Noiseless Portable: noiseless type bar action principle as Remington Standard Noiseless; 88 character keyboard; all operating features of Standard (except tabulator).

Victor Portable: two models, Victor "T" and Victor "S". "T" model fitted with adjustable 5 stop tabulator; "S" model has 5 space automatic paragraph key.

Portable 5 T. and 5 Par: similar to Victor T and S, but designed to fit smaller case and fixed to baseboard.



REMINGTON MODEL 80 FANFOLD MACHINE

Home Portable: full standard keyboard; essential operating features of Standard model; standard English keyboard only.

Ribbons and Carbons: complete range of typewriter supplies and accessories for every kind of office machine, etc.

Line-a-Time Copyholder: stands behind typewriter in direct line of sight. Notes move *upwards* always at correct reading point.

Remington Model No. 20: typewriter for accounting work. Back or dual (front and back) feed. No adding mechanism; carriage widths: 10.5, 12, 14.5, 18.5, 24.5, 27.5 in.; carriage return manual or electric; manual keyboard; all-caps type; 10 stop tabulating keys and palm tabulator; keyset tabulating stops. Features supplied when required: date printing key; quick insertion lever; automatic tally roll; twin cylinder; independent front feed; end stops; oblique figures.

Model No. 122: for any accounting work where vertical totals only required; sterling, weights or other denomination. Features supplied when required as above.

Model No. 124: one of Remington Cross Accounting Machines, provides automatic column totals in sterling or other denomination; at same time provides cross cast to arrive at cross total of each line, or balance of each account; direct subtraction in all vertical adding registers and into cross adding register; has single cross register; other specifications as model 122. Features supplied when required: as on model 122.

Model No. 128: Cross Balancing machine; adds and subtracts across only, without giving vertical totals. Single cross totalizer supplied; sterling or any other denomination. All types of accounting work, as done on models 122 and 124; same facilities for collation of forms; other specifications similar model 122. Features supplied when required: as on model 122. Machine also supplied fully electrified (Model No. 88).

Model No. 80: fully electrified typewriter for accounting records; no adding mechanism; back feed or dual (front and back); easy insertion, alignment of various related forms for simultaneous entries. Electric carriage return; keyboard fully electrified; all-capital type; tabulation manual or automatic, downward pressure electrified tabulating keys and palm tabulator; automatic tabulation moves carriage automatically; interchangeable stops and form bars. Features supplied when required: as on model 122.

Model No. 82: fully electrified Vertical Accounting Machine; does similar accounting work to Model No. 122 but mechanical construction different through complete electrification. Automatic vertical totals of sterling, or other denominations; direct subtraction; amounts deducted at any point in any column. Features supplied when required: as on model 122.

Model No. 84: fully electrified Single Cross Accounting machine; does similar work to Model No. 124 but mechanical construction different through electrification; specifications as on model 80. Features supplied when required: as on model 122 and automatic star proof of clearance.

Model No. 86: fully electrified Dual Cross Accounting machine; two cross totalizers; different denominations, e.g., weights and sterling, numeral and sterling, etc.; horizontal computation in one or two cross-footers simultaneously; costing; running totals under different headings, and total cost to date. Direct subtraction provided in all vertical and cross totalizers; proof of clearance of both cross registers provided, "Star" for one, and "Triangle" for other; other specifications as on model 80. Features supplied when required: as

REMINGTON'S NOISELESS PORTABLE

on model 122 and automatic star proof of clearance.

Model No. 16 Fanfold Machine: takes Continuous Fanfold or Interfold stationery; provides automatic feeding and withdrawal of carbons. Carriage widths: "B" to take forms up to 8½ in. wide; "C" up to 12½ in. wide; number of copies: (a) one original and up to eight carbon; (b) one original and up to twelve carbon; carriage return manual or electric; manual keyboard; all-capital type; 5-key tabulator; keyset tabulating stops; palm tabulator. Features supplied when required: date printing key; long underscore key; oblique figures; extra carbon heads; duplex head for quick interchange of different sets of forms; tandem carbon bracket for deletion of certain particulars from parts of form sets. Machine also supplied in following models: No. 122 with Vertical Adding Equipment; No. 124 with Vertical and Cross Adding Equipment; No. 80 All-Electric Typewriter Model with full electrified keyboard; No. 82 All-Electric with Vertical Adding Equipment; No. 84 All-Electric with Vertical and Cross Adding Equipment; No. 86 All-Electric with Vertical and Dual Cross Adding Equipment.

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YOUR typewriter actually does the work of two machines when used with "Fanfold" Continuous Form Adapter, because the many time and money-saving methods of the Continuous Form Billing Machine are added to all the advantages of regular typing.

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"Fanfold" Adapter places no strain whatever upon the typewriter carriage; because of the very simplicity of construction and operation there is nothing to get out of order.

Fanfold Ltd.
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City 4056

MODERN WAGE-PAYING *demands* LANCASTER'S *Autoseal* PAY WALLETS

● Lancaster's have studied wage-paying problems for many years and have now evolved a unique pay-wallet which makes wage-paying more rapid and hygienic, ensures automatic checking yet costs actually less than a transparent envelope. No damping is required. The envelopes are automatically rubber-sealed. Notes can be handled and coins checked without breaking seals. This provides a perfect wages check.

Lancaster Brothers & Co.

Envelope and Cash Bag Specialists

SHADWELL ST., BIRMINGHAM, 4

Many prominent concerns are using these pay-wallets. We shall be glad to send you samples immediately on receipt of a postcard.

for continuous Interfold stationery; employs continuous rolls of carbon paper, not sheets. Fits to any Remington and Smith Premier typewriter and accounting machine. Width of form usable not restricted.

Dalton Adding and Listing Machines: listing and adding £ s. d. or numerals on tally roll or loose sheets of paper. Keyboard contains only twelve figure keys; simple and fast. Manual machines for desk use; electric models, with motor and stand; shuttle models available for listing reference numbers and amounts. Features: total key; sub-total key for carrying forward page totals; split lever for adding whole numbers; repeat key for repetition amounts; non-add key; all carriages moveable.

See this firm's announcement, page 33.

RIKARBON COMPANY LTD., 28, Victoria Street, London, S.W.1.

Specialists in Services for Typewriters: precision rebuilders of all makes of typewriters. Speciality: re-aligning type bars.

Saving of 25 per cent on Ribbon Costs: an exclusive scheme under which an allowance is made for returned used typewriter ribbon spools enables users to make this economy.

Cabinets: designed for typewriter supplies partitioned to take 36 typewriter ribbons, 26 boxes of carbons, cleaning equipment, etc., is offered *free* to users.

See this firm's announcement, cover ii.

ROBERTS NUMBERING MACHINE CO., LTD., 63-64, Chancery Lane, London, W.C.2.

Model 49: for automatic numbering; operates consecutively, duplicates and repeats; triplicate or quadruplicate movement can replace duplicate if required. Three styles of figures.

Model 50: similar specification to Model 49 but has indicator. Knob on front changes at touch one movement to another.

Model 69: large capacity type; similar specifications to above model. Supplied with platform and foot power attachment.

Model 95: five movements—consecutive, duplicate, triplicate, quadruplicate and repeat. Dial locked, eliminates accidental changes in setting; small reset lever operates release; dial point then turned to movement desired. Five styles of figures.

Model 37: consecutive lever type; number advanced one unit a time by finger pressure on lever; 3 styles of figures.

Model 53: automatic dating type, with die; self-inking; die size: ⅜ by 1¼ in.; date advanced daily by pressure on small lever.

Model 47: automatic dating; self-inking metal dater, with foot plate and clip-on pad holder.

Wide range of other models available.

RONEO-NEOPOST LTD., Victoria House, Southampton Row, W.C.1.

Postal Franking Machines; 2-V. Model: hand operated; franks any two denominations with postmark and optional advertisement simultaneously. Suitable for ordinary letter mail and packets.

3-V. Model: similar to model 2-V, but with three denominations; enables, by combinations, parcels as well as letters and packets to be speedily franked.

6-V Model: covers whole of an extensive mail, including letters, parcels, telegrams, registered letters, C.O.D. forms, etc.; abolishes use of postage stamps; eliminates loss and mis-use.

Electric Model: improved model; just introduced; deals with all types of mail at great speed.

Insurance and Unemployment Machine: prints and embosses franks on National Health Insurance Cards and Unemployment Books. Machine is set for specified week, cards simply inserted and a lever pulled down. Much time and labour saved; it is possible to frank cards at rate of 1,000 per hour.

RUBERY, OWEN & CO. LTD., Darlaston, South Staffs.

Filing Cabinets: standard type, four drawers fitted with oxidized card holders and handles; roller suspension arms. Quarto and foolscap models; finish—stove enamelled R.O. olive green. Automatic locking device extra. Plan filing cabinets: for engineers, architects, etc.; protect drawings, etc., from dust, vermin, damp and so on. Standard units—six or eight drawers, each with hood at back, double hinged compressor flap at front to prevent drawings curling. Chromium-plated card holders and handles; finished in olive or R.O. dark green enamel, stoved on. Models available (drawer sizes): 41 by 28 by 4 in.; 53 by 32 by 4 in.; six- or eight-drawer models in both sizes.

Lockers: steel clothes lockers; hygienic, fire-resisting, vermin and pilfer-proof. Built on nest principle; rigid construction; doors hung on butt hinges, concealed; six-lever lock; duplicate keys; doors louvred for ventilation, contain recessed card-holder.

For

QUICK REFERENCE

under 'Products'

Use the Classified Index on Page 20

Cupboards: H. type; 72 by 24 by 18 in. deep; three fixed shelves; single hinged door to lock. Finished: stove enamelled R.O. olive green. "A" type; 6 ft. by 3 ft. by 18 in. deep; three adjustable shelves; double hinged doors; 3-point espagnolette locking device and 6-lever lock. Extra shelves available.

Steel Shelving: adjustable and interchangeable; backs, partitions, bin fronts and dividers easily added. Erected to meet all usual shelving requirements.

Office Tables and Desks: types for directors, secretaries, managers, typists, etc. Standard model (Typists') 60 by 27 by 30 in. high. Ledge at back to prevent papers slipping to floor. One drawer left, three right side for materials, personal goods, etc. Office Desk: welded steel; 45 by 30 by 30 in. high; right hand pedestal type with linoleum top; two box drawers, rigid construction, mounted on steel slides; brass pull to each drawer. Stove enamelled olive green finish. Various models available. Office Table: 14 gauge thick mild steep top; rounded corners; 46 by 23 by 36 in. high.

Tubular Furniture: various models in chairs, tables and desks, etc. Combined typists' desk and chair; desk has steel top, drawer and sliding extension; frame bent tube; olive or dark green stove enamelled. Chair has adjustable tip-up seat, upholstered in hide, Moquette, Roytex or tapestry. Standard sizes: height 27 in.; width 24 in.; depth 18 in.

Steel and Glazed Partitions: quickly erected, easily rearranged; rigid; provide for service wires, sound-insulation panels, etc.; fire-resisting. Built on unit principle. Various styles, sizes, etc. for office or factory available. Stove enamelled finish.

Works Type Mesh Screening: spot-welded construction; bottom panel of 18 gauge reinforced steel; 3 ft. high by 3 ft. 3 in. wide; spot welded to framework. Latter made of 2 in. by 1 in. by 14 gauge pressed angles; where necessary, T posts 2 in. by 2 in. by ¼ in. fitted; if possible, posts grouted into floor to increase rigidity. Panels flush on one face; on other, additional panel fitted if desired; cost extra. Upper panel fitted with 3 in. by 2 in. galvanized weld mesh; 9 gauge horizontal wires spaced at 2 in. centres, 5 gauge vertical wires spaced at 3 in. centres. Clips secure mesh; 14 gauge gussets fixed to corners of framing give additional strength; sprayed aluminium paint finish. Overall height about 6 ft. 9 in. but screening can be any height to suit requirements.

See this firm's announcement, opposite.

RUTHURSTAT LTD., 12-13, Astor House, Aldwych, London, W.C.2.

Document and Plan Photo-Copying Apparatus: simplified method for photo-copying without dark room or skilled operation; reproduces exact copies of documents such as specifications, reports, legal and foreign correspondence, etc., work for which many hours' typing and checking would otherwise be necessary. In engineering work, possible to make intensified copies or tracing from weak pencil on detail or cartridge paper; copies and tracings made from blue prints. Complete range of apparatus available for general office use, engineering work or dual purpose.

Midget Model (Portable): makes copies up to foolscap size; lighting units and automatic timing escapement.

Complete Midget equipments available.

Office Model (Portable): copying capacity 16 by 13 in. (double foolscap). Fitted two patented retractable filters (1) for contrast (2) for cutting out the ultra-violet rays; designed for rapid manipulation. Complete with lighting units, automatic timing device and double loading spool box.

Intermediate Model: copying capacity 26 by 20 in. Operates by vacuum pressure; perfect contact over large dimensions. Incorporates patented quick release retractable filter; automatic timing device for reducing arc to a minimum; double loading spool box; sealed edge vacuum blanket.

Mammoth Engineering Model: copying capacity 42 by 32 in. Incorporates special features of Intermediate model with addition of side clamping for vacuum pressure; specially strengthened to withstand heavy and constant work.

Spares: maintenance is extremely small; guarantee given with every model. Spare parts and supplies readily obtainable from stock; good service provided for users.

See this firm's announcement, page 54.

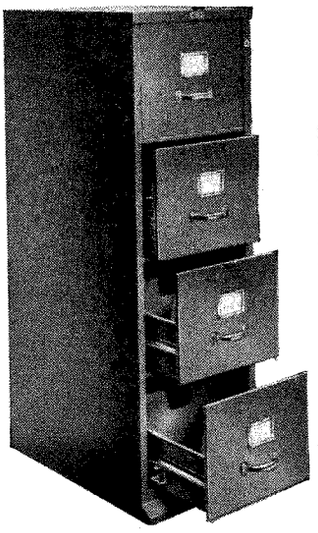
THE SHANNON, LTD., "Shannon Corner", New Malden, Surrey.

The Shannograph: new filing system; consists of suspended folders on hanger bars; each folder provided with narrow strip along top edge, so constructed that edge is maintained perfectly flat and visible when folder is in drawer. Strip edge contains label in non-inflammable sheath, bearing necessary indication as to name, number, etc. Charting code is employed as part of visible strip; name, subject or number, or all three given graphical representation. Thus folders in drawer display line sequence; if broken denotes misplaced folder. Hanger bars are rustproof; folders are of hardwearing material, permanent. Provision for much or little correspondence; each folder punched at base to enable bulldog clip to be affixed when taken out of files; loss or misplacement of papers is prevented.

Some of the Administrative Steel Equipment

MADE BY

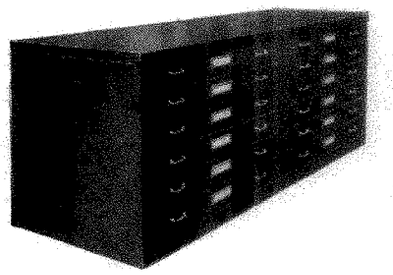
Rubery, Owen & Co Ltd



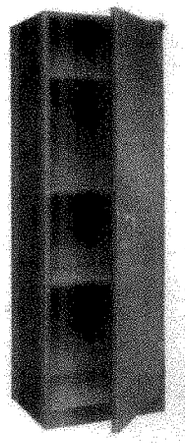
STEEL PLAN-FILING CABINETS. Specially designed for Engineers, Architects, etc., for protecting large numbers of drawings from dust, vermin, etc. Supplied in Standard units of 6 or 8 drawers. Each drawer fitted with hood at back and compressor flap at front to prevent curling of drawings. Prices from £21.

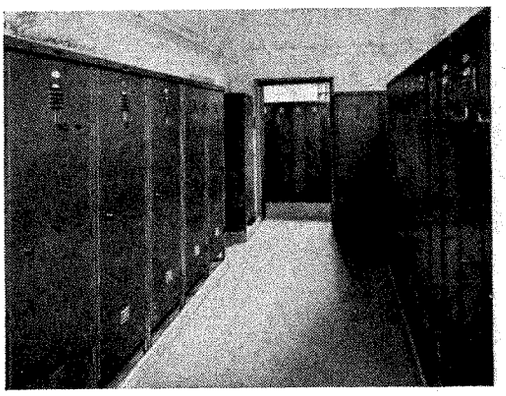
STEEL FILING CABINETS. *Four drawers, fitted Oxidized Card Holders and handles, runs smoothly and easily on Roller Suspension Arms.*

Price £4 : 8 : 6
Plus 10%.



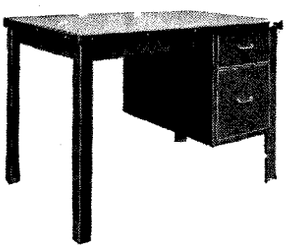
STEEL CLOTHES LOCKERS AND WARDROBES. Dust-proof, vermin-proof and pilfer-proof. Fitted with rail and hooks for clothing. Ample accommodation for other articles of value. Lockers can be supplied singly or nested as required.





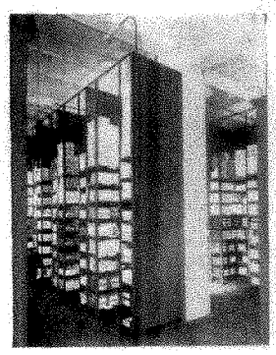
STEEL CUPBOARD. Solidly build for hard wear and long service. Three fixed shelves Size 72" x 24" x 18". OFFERED AT THE VERY LOW CHARGE OF £3 net.

Plus 10%.



Steel Office Desks. Highest grade welded-steel construction ensures strength and long hard wear, as well as neat and attractive appearance. Drawers mounted on steel slides, to ensure easy running. 45" x 30" x 30", finished stove enamel olive green.

Steel Adjustable Shelving. A structure of Rubery Owen Shelving of the special "Recess" type ensuring greater storage capacity supplied to W. H. Smith & Son Ltd., Lambeth, S.E.1. Steel Storage Equipment can be erected to any individual requirements.



Rubery, Owen & Co Ltd

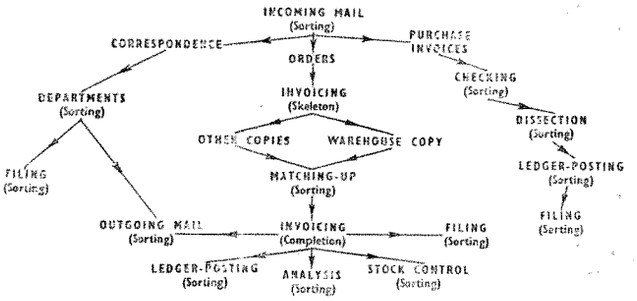
LONDON : Imperial Buildings 56, Kingsway, W.C.2 Telephone: Holborn 6306-7

DARLASTON, STH. STAFFS Telephone : Darlaston 130 (P.B.X.)

COVENTRY - Britannia Wks., Paynes Lane Telephone : 60051-2

BIRMINGHAM, 3: Great Charles Street Lombard House Telephone : Central 8134-5

A surprising Improvement in Office Efficiency can be achieved by using Up-to-date Sorting Equipment



SORTING occupies a key position in modern office routine.

The rate and efficiency with which it is performed regulate the flow of work throughout the whole office.

AMBIDEX SORTERS enable sorting to be done in HALF THE USUAL TIME, and in consequence all the work that follows is speeded up and made more efficient.

The range of models available is such that any kind of sorting and any volume of papers, large or small, can be dealt with.

AMBIDEX Sorters are in daily use in the offices of Railway Companies, Banks, Building Societies, Chain Stores, Department Stores, Mail Order Houses, Borough Councils, Marketing Boards, and hundreds of commercial firms who have recognized the importance of efficient sorting.

WRITE NOW for booklet: "The Modern Office requires an UP-TO-DATE Method of Sorting", with leaflets illustrating the various types and sizes available, and important details of construction.

Suggestions as to the most suitable equipment to be used for any purpose will be gladly sent on receipt of particulars. (No obligation is incurred thereby, and no charge is made for a written report following a survey of your present routine.)

Patentees and Manufacturers

AMBIDEX Equipment Company

44 St. Paul's Churchyard, London, E.C.4 *Est.* 1932

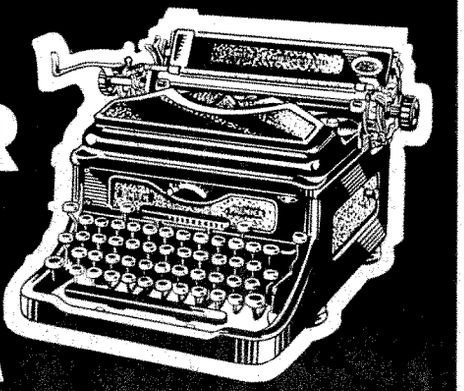
22 TIMES QUIETER THAN AN ORDINARY TYPEWRITER

THE SMITH PREMIER

New Model

NOISELESS

A BRITISH EMPIRE PRODUCT MADE IN CANADA



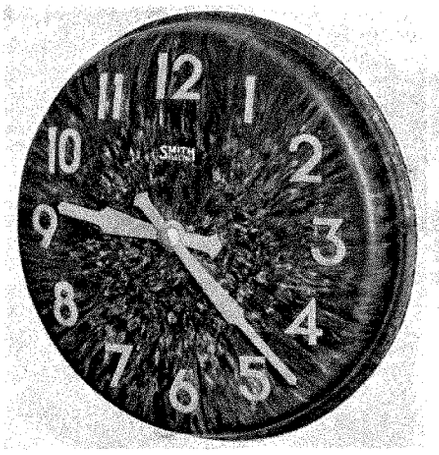
FOR FULL DETAILS WRITE TO SMITH PREMIER TYPEWRITER CO. LTD., 4, ST. PAUL'S CHURCHYARD LONDON, E.C.4. ('PHONE: CITY 5361)

Combination of visible edge and folder can be utilized in variety of ways. Those who are familiar with visible card systems will realize that new system, combining filing with visible record, has great possibilities.

See this firm's announcement, page 25.

SMITH'S ENGLISH CLOCKS LTD., Cricklewood Works, London, N.W.2.

"Sectric" Synchronous Electric Clocks: harness the entire organization of a firm to the accuracy of A.C. mains-controlled



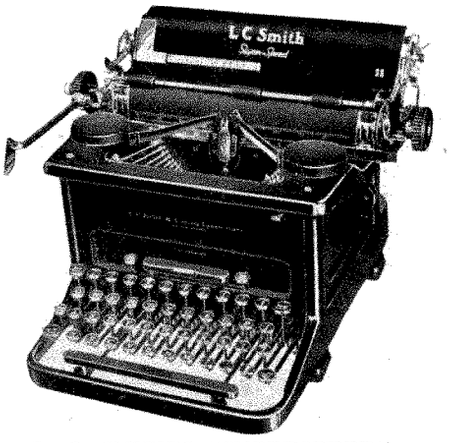
AN UNUSUAL TYPE OF MOULDED PLASTIC FACE; ONE OF MANY DESIGNS

time. Master clocks and individual clocks of a wide range of styles for executive and general offices and factory.

"Sectric" Time Recorders: mains-controlled time adapted to employee and other time recording.

L. C. SMITH & CORONA TYPEWRITERS LTD., 52-56, Osnaburgh Street, Regent's Park, London, N.W.1.

Super-Speed Typewriters: Standard and Silent models; ball bearing throughout; floating shift; finger-fit keys; choice of left- or right-hand carriage return; improved keyset tabulator; instantaneous stop clearance; micro touch selector; variable line spacer (one hand operation); overhead or front bail; margin rack on angle so that it



L. C. SMITH'S "SUPERSPEED"

is in line of vision; large platen knobs; typebar segment cover plate for keeping dirt and erasings out of mechanism; half spacing.

Corona Portable Typewriters: five models—3, 4, Standard, Silent and Sterling.

Corona Adding-Listing Machine: three

models; portable; desk size; clear signal printed with first item added to indicate machine was clear; non-print key makes possible to add without listing when needed; total and sub-total keys placed for one-hand operation; non-add key with automatic printing of signal; nine-column all visible standard flexible keyboard; individual column control and correction keys. Model R.P., total capacity 9,999,999 19 11; Model R.F, total capacity 999,999 19 11¾; Model 8-RF, total capacity 9,999 19 11¾.

Vivid Duplicators: portable; up to 100 copies can be made on any weight paper from cardboard to tissue; sizes up to 8¾ by 14 in.; eight-colour reproductions in one operation possible; master copies made by (*a*) typewriting through Vivid ribbon or carbon paper, (*b*) writing or drawing with Vivid pencils or ink, (*c*) printing with Vivid ink.

Silent Speed Marchant Calculating Machines: two models, one automatic, the other semi-automatic; capacities 10 by 10 by 20 and 8 by 8 by 16 each machine has full carry-over capacity throughout all operating dials; main operations of machine under span of one hand; instant electric clearance; two-way carriage shift; red position indicator; 3-dial alignment; preset decimal system; automatic add and subtract bars; automatic comparison division; automatic reversible multiplication.

SMITH PREMIER TYPEWRITER CO. LTD., 4, St. Paul's Churchyard, London, E.C.4.

New Model Noiseless: 23 mechanical improvements including: pressure printing device on all type keys to eliminate noise; only one-third effort needed to operate compared with standard machines. 88 character keyboard; built-in single key tabulator with setting and clearing tabulator stops

SMITH PREMIER MODEL 60 TAKES PAPER UP TO 42½ IN. WIDE

key on keyboard; special pressure control for varying position of carriage to suit thicknesses of work; interchangeable card platen; four-way type guide maintains alignment; variable line spacing, etc. Carriages to take paper from 11¼ to 27 in.; type and signs to customers' requirements. Attachments supplied to handle continuous stationery, record cards, carbon ribbons for hectograph work, etc.

Standard Nos. 50 and 60: "Segment shift" typewriters; open construction; clear visibility; light quick basket shift for capitals. Carriages for paper from 10½ to 42½ in.; rubber feed rolls keep paper rigid when typing. Model 50 has 84 characters; Model 60 has 92; all modern type styles and languages. Both models fitted single bar tabulator; also supplied with 10 key inbuilt decimal tabulator.

Noiseless (Portable) 51: same noiseless type bar action as Standard Noiseless. 88 character keyboard; all operating features of Standard machine except tabulator); one carriage width, taking paper 9½ in. wide; various style types and keyboards for most modern languages. Travelling case; weight, with cover, 16 lb. 6 oz.

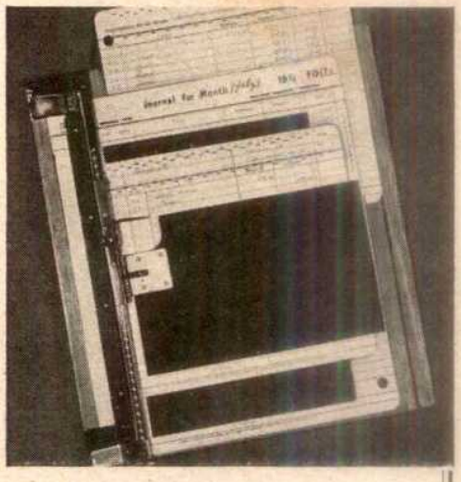
Smith Premier (Portable) No. 11: has every operating feature of standard typewriter, including 5 stop tabulator. 88 characters; weight 17 lb. 1 oz.

DEFINITIVE
ACCOUNTING
by hand — by machine

The universal system for every purpose.

Automatic Statements,
Automatic Analysis,
Automatic Costing,
Pay Slips.— Receipts,

IN ONE OPERATION

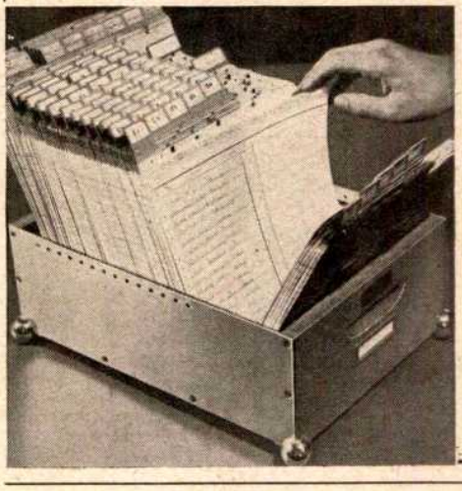


THE SYSTEM WITH A THOUSAND POSSIBILITIES

Definitive

ACCOUNTING LIMITED
VICTORIA HOUSE, VERNON PLACE
LONDON W.C.1 *HOLBORN 9006*

THE IDEAL MACHINE POSTING EQUIPMENT



FINGER-TIP CONTROL for every record, NEW or OLD, in drawers, trays or binders.

Quick Selection, Speedy Information, NO MISFILING.

Your records converted at a moment's notice WITHOUT RE-WRITING into

DEFINITIVE VISIBLE

Portable 5 T. and 5 Par: similar to Victor T and S, but designed to fit in smaller case and fixed to baseboard. Difference between T and Par models, former has 5 stop adjustable tabulator for statistical work, latter an automatic 5 stop paragraph key (operates without setting of stops); weight 5 Par, 13 lb.; 5 T. 13 lb. 2 oz.

Chum Portable: standard keyboard; key which automatically spaces paragraphs of 5 spaces without stops being set; weight with travelling case 12 lb. 8 oz.

Home Portable: full standard keyboard; English only; weight 11 lb. 7 oz.

Ribbons and Carbons: complete range of typewriter supplies and accessories for every office machine.

Service: branches in British Isles, agents and branches throughout world where full mechanical service is available. Contracts arranged for monthly calls of mechanic to clean, oil and maintain typewriters.

Line-a-Time Copyholder: stands behind typewriter in direct line of sight. Notes move *upwards* always at correct reading point. Line indicator; adjustable spacing; models for shorthand notebooks and paper up to 36 in. wide.

See this firm's announcement, page 48.

W. H. SMITH & SON, LTD., Business Forms Dept., Bridge House, London, S.E.1.

"Alacra" Continuous Stationery: forms for use on all makes of typewriters, accounting, tabulating and other machines; carbon interleaved; up to 15 copies from one typing (electric machine); exact registration always. Holes punched in the stationery are aligned to one-thousandth of an inch; as forms pass under platen they are held in dead accurate registration by

Is your Direct-Mail giving you the returns you are entitled to expect?

ARE YOU CONFIDENT that your Sales Literature brings the percentage of replies which it should?

DO YOU FEEL that when a prospect receives your promotion matter it stands for consideration—distinct from the barrage of advertising and sales literature which bombards him every day?

THERE IS A METHOD by which you can be assured that your direct-mail will not only arouse the recipient's interest but also enable you to take full advantage of that situation to the point of prompt reaction.

THIS IS A SIMPLE PATENTED LETTER-HEADING-CUM-FOLDER. Its ingenious design is such that the folder is not revealed until the letter is in the reader's hand. It incorporates also a detachable reply or order form.

MANY LARGE BUSINESS ORGANISATIONS have proved that this "Letter-cum-folder" does procure a high percentage of replies. Maybe you also will find this plan advantageous to your business.

LET US SEND YOU, without obligation, a specimen of this letter-folder. It will tell you how, through the use of this plan, your returns from Direct-Mail sales publicity may be substantially increased.

DRYDENS Ltd.

BRENT CRESCENT, NORTH CIRCULAR ROAD, LONDON, N.W.10
Telephone: Willesden 2883-4-5

pins which pass through the holes. As platen comes on upward turn, pins recede automatically; they never catch in forms, but prevent creeping and slipping at vital point of turn. Machines are fitted with special platens equipped with aligning pin-wheels; no charge made for change-over or platens; platens renewed free of charge whenever necessary. System operates perfectly on power or hand operated machines; eliminates stoppage to adjust carbons and check alignment; some users report 15 to 30 per cent increased work from machines.

See this firm's announcement, page 53.

THE STOLL CHAIR MANUFACTURING CO., LTD., Wolverhampton.

Stoll Chairs: seats give wide degree of movement; do not impede operations; at any time ready to provide comfortable position of repose. Many practical experiments led to design of the spring revolving original Stoll chairs; a spiral spring, invisibly built in, provides for soft vertical yielding of seat. Every chair can be fitted with "Nereg" device which adds to known advantages of Stoll chair—that of seat adjusting itself to every movement. Tilting of seat increases comfort, enlarges radius of action and improves efficiency.

See this firm's announcement, page 53.

JOHN SWAIN & SON LTD., 89-92, Shoe Lane, London, E.C.4.

"Process" Engraved Blocks, electros and stereotypes. Swains' silver electros nickel deposited direct to wax or lead mould; lead moulding and heavy deposit for long wear and accuracy of register in colour plates.

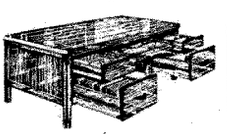
Rotary Photogravure: known as Swaingravure; offset-litho (deep) for reproduction of coloured subjects with water-colour effects. Specialists in printing Dufay, Kodachrome, Vivex, etc., colour work.

Artists Prepare layouts, ideas for advertising, original sketches and drawings; catalogues and trade advertising copy written; typesetting department, display and advertising work.

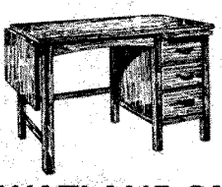
SYNCHRO TIME SYSTEMS LTD., 57-63, Wharfdale Road, King's Cross, London, N.1.

Electric Time Recorder: with synchronous motor to operate direct from A.C. mains or for use with master clock system. Automatic card adjustment by which "out" recordings may be made immediately following an "in" register; patent punch mechanism ensures faulty or double recordings are impossible; late arrivals, early departures, overtime, etc., printed in red; two extra wheels provided for different programme Saturdays; automatic vertical as well as horizontal settings ensure recordings appear in vertical column

For modern economical office furnishing it will pay you to send for the WATLANE Catalogue.



These are two of our products: a desk for executives fitted with 4 drawers for keeping vital information always at hand, and a compact typist's table, the construction of which facilitates typist's work.



WATLANE CABINET CO
15 Grange Rd., Willesden Green, N.W.10

FIRE!

Even a modest conflagration in your premises could cause incalculable damage if your more vital records were harmed. Your premises and stock are of course insured, but no insurance could repay the years of effort represented by your ledgers, sales records, minute books and he like. FIRE-PROOFED CABINETS can take care of these at a very moderate cost however, representing possibly less than just one year's premium on less valuable possessions.

Prices from 87/6.

Full price list on application.

H. TAYLOR & SON (London) Ltd.
28 Holborn Viaduct, London, E.C.1.
Phone: Central 2987

VENUS PENCILS

VENUS PENCILS are incomparably smooth and long lasting, their standard of quality never varies.

MADE IN ENGLAND
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If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.

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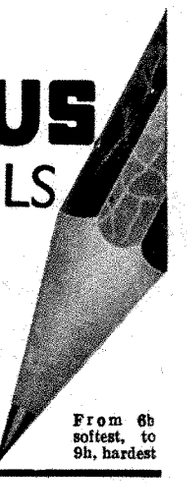

From 6b softest, to 9h, hardest

each day, which simplifies card checking, provides easy means calculating wages; recordings made on front of card which need not be turned over or upside down; recorder locked to internal framework, cannot be interfered with; employees can see at glance if recording will be blue or red. Workers' time signal device fitted to operate bells or sirens at any set times, if required.

Semi-Automatic Time Recorders: for A.C. mains or master clock system; no winding or regulating needed; accurate time always shown; recordings made on front of card; variable width receiver enables machine to be linked with any standard system.

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Tan-Sad Scientific Seating: science of comfortable seating has been studied by makers of Tan-Sad Seating. Wide range of chairs and stools, each designed to suit the work of the user, to enable him to work with the highest degree of comfort and a minimum of fatigue. All models incorporate the Tan-Sad system, in that being anatomically correct in design and construction, they enable perfect posture to be maintained.

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Cabinets: fire-proofed for storage of vital records such as ledgers, sales records, minute books, etc.; strongly built; low in cost.

See this firm's announcement, page 50.

TELEPHONE RENTALS LTD. Horseferry House, Westminster London, S.W.1

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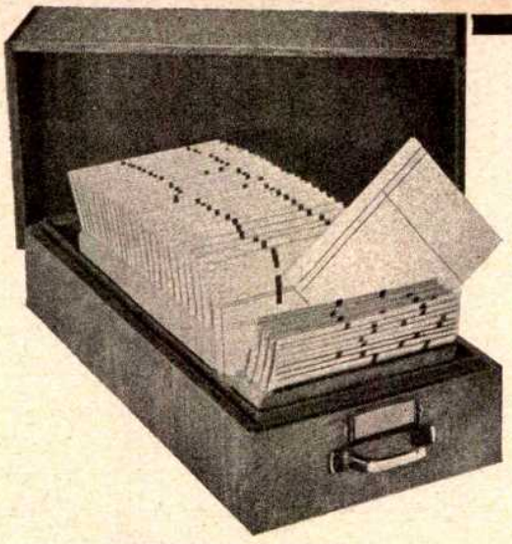
Fanfold Machine: electric or manual, for use with continuous stationery. A touch of the handle puts one order or invoice set into circulation and the next into writing position with carbons in place.

Simplex Accounting Machine: Manual or electric operation, fitted with front or rear feed carriages for unit or continuous forms and fitted with column adding-subtracting registers.

New Model Underwood Accounting Machine: electric. Features include mechanical "line proof of accuracy", direct subtracting computing mechanism, single, double or triple crossfooting; oblique figures for credit balances; unlimited application flexibility; front or rear feed carriages; champion typewriter keyboard; only 12 figure keys; visibility of all totals and all entries. All automatic features controlled by means of instantly interchangeable control plates. An all-purpose accounting machine.

Automatic Feed Machine: electric or manual, with or without adding-subtracting registers for automatic totalling. Handles continuous length interfold, fanfold or roll forms of various widths, including card or other related records. Flat writing surface ensures legibility for twelve or more copies.

Book Recording Machine: types direct



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Further, they can be used without disrupting your existing methods and your present cards can be used

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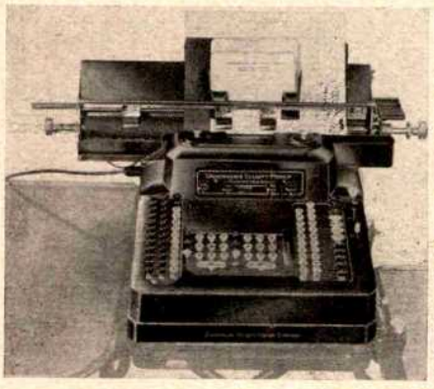
into a bound book and produces carbon or indelible copies at time of writing original entries, if required.

Underwood Elliott Fisher Accounting Machine: writes, adds or subtracts and cross-computes simultaneously. The exclusive flat writing surface makes collation and registration of forms as simple as laying sheets of paper upon a table. No handling of loose carbons. Absolute mechanical control of accuracy. Units interchangeable.

Underwood Sundstrand Adding Machine: all models fitted with only 12 numeral keys, thus enabling "touch" method to be employed. One hand only is used to manipulate keyboard, leaving



UNDERWOOD SUNDSTRAND AUTOMATIC ACCOUNTING MACHINE FOR UNDERWOOD ELLIOTT FISHER STORES ACCOUNTING

left hand free to follow work. Column selection is automatic . . . direct subtraction is as easy and simple as addition . . . credit balances are also automatic. Only three keys—the three point control—perform six functions—adding, subtracting, non-adding, sub-totalling, totalling, and printing of credit balances.

Underwood Sundstrand Statement Machine: customers' statements, weekly or monthly, printed and automatically balanced at very high speed. During remainder of month, the Statement Machine can be used for ledger posting, each account being automatically balanced after each entry . . . and for adding and subtracting of audit, analysis work and all the numerous figuring jobs of the office.

Underwood Sunstrand Accounting Machine: "Classes A, B, C and D". Ranging from low-priced "Class A" to new "Class D", with multiple registers, these machines are all fully automatic, the various features being controlled automatically by instantly interchangeable control plates. Physical and mental effort on the part of the operator is eliminated.

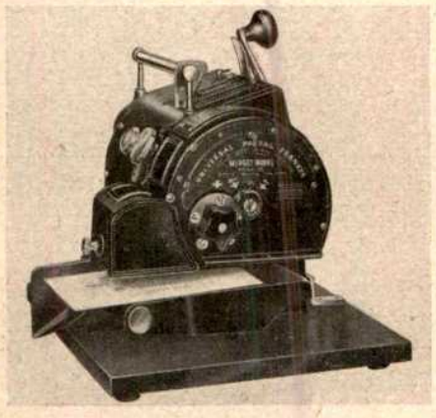
Various other machines: modifications of models mentioned are sold by the Company. Also supplied are Typewriter Ribbons, Carbons, Desks, Chairs, Files and office accessories.

UNIVERSAL POSTAL FRANKERS LTD., 1-7, Canonbury St., London, N.1.

Midget Franker: postage values between ½d. and 1s.; facility for repetition or combination to make up any other rates needed. Registration on meter in halfpenny units gives total expenditure and balance on hand at a glance; total capacity for prepayment £200. Handles all sizes and varying thicknesses up to ½ in. for direct franking; for parcels, etc., labels used of address or strip type; prints advertising slogan or return address in same operation. Speed 2/2500 per hour; two models. (a) two-value and (b) improved Midget with three or five denominations, front dial

selector of values, omitted when not required and parcel labelling attachment. Electrically operated if required; pedal attachment to motor actuates mechanism. Stand complete with feed plate and letter tray occupies 20 in. by 24 in.

Junior Multi-Value: 23 denominations up to 11½d. in one impression; obviates repetition of values. Registration is shillings and pence for total expenditure and balance on hand; total capacity for prepayment £500. Handles all sizes and thicknesses up to ½ in.; labels used for parcels, etc. Advertising slogan printed or omitted as required at turn of a knob. Speed 2/3000 per hour; hand or electric desk models; latter has trip mechanism preventing recording or

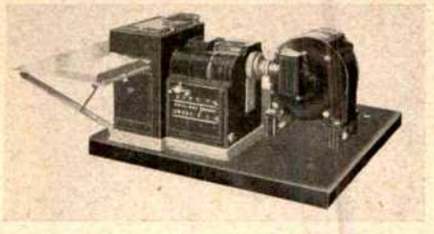


"UNIVERSAL" MIDGET MODEL FRANKER

printing of postage until letter is fed into rollers. Speed 5/6000 per hour.

Multi-Value: all denominations up to 29s. 11½d. (or lesser maximum) in one impression. Similar in features to Junior but hand and electric models have automatic trip mechanism. Speed of hand machine 2/3000 per hour. Electric models complete with stand, occupies space of 26 by 24 in. Output 5/6000 per hour.

Franking and Sealing, H. Model: five denominations between ½d. and 1s.; facility for repetition or combination to make up any other rates needed. Franks



JUNIOR MV MODEL; ELECTRICALLY OPERATED, 5,000—6,000 FRANKINGS PER HOUR. HAND OPERATED, SPEED 2,000—3,000 PER HOUR

and seals simultaneously or franks separately; handles all dimensions and thicknesses up to ¾ in. (sealing maximum is ⅜ in.). Registration of meter and general details similar to Midget. Electrically operated if required; pedal attachment to motor actuates mechanism.

"FS" Pitney-Bowes Model: electrically operated, medium speed machine. Automatically feeds, separates, franks, seals and stacks at 125 per minute; deals with all dimensions up to 12 in. by 8 in. and thickness of ⅜ in. Occupies 34 in. by 16 in. Operates "CV" meter with six denominations of postage; standard rates ½d., 1d., 1½d., 2d., 2½d. and 4½d.

"AV" Pitney-Bowes Model: high speed electric machine. Automatically feeds,

Because Human Nature Isn't Infallible

IF EVERYONE who keeps written records were infallible, always prompt and unforgetful; *if* carbon copies were always perfect, one system of keeping original entry records probably would answer as well as another. *Then* there would be no need for Alacra Registrators.

The simple, ingenious machine you see pictured below, and the marginally punched forms used with it, were devised and now are widely used throughout Great Britain *because human nature isn't infallible.*

Alacra Registrators have created new standards of speed, accuracy and efficiency in writing multi-copy records. Alacra leadership in this field is due mainly to the fact that, because of positive pinwheel control of the forms at both margins, *Alacra guarantees micrometric registration of the original record and all carbon copies.*

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A postcard or telephone call (HOLborn 4343) will bring you full details of Alacra Registrators for hand-written records and of the Alacra System of Continuous Forms; or a Systems Adviser will quickly explain how Alacra can solve your record keeping problems with increased dispatch and at lowered cost.

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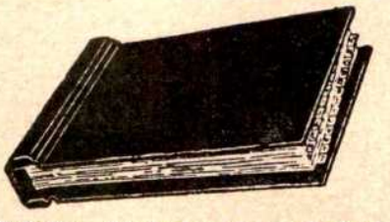

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Accessible—"Robin" Looseleaf Books can be kept always at hand.

Portable—can be carried wherever desired.

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separates, franks, seals and stacks at rate of 250 per minute; deals with all dimensions up to 12 in. by 14 in. and thickness of ⅜ in. (maximum depth for sealing 6 in). Occupies 42 in. by 38 in. Operates "CV" six-value postage meter similar to "FS" model.

Universal Sealing Machine: electric, with automatic feed; output 125 per minute. Envelopes left open before feeding into machine; eliminates possibility of missing, ensures effective sealing; deals with dimensions up to 12 in. by 8 in. and thickness of ⅜ in. provided flaps are lengthways.

See this firm's announcement, page 41.

THE VALOR CO. LTD., Bromford, Erdington, Birmingham.

Filing Cabinets: steel, rigid construction; adjustable compressor plates; two-point contact slides; steel cupboards, clothes lockers, waste-paper bins, etc.

WATLANE CABINET CO.,15,Grange Road, Willesden Green, London, N.W.10.

Specialists In Making Office Furniture: various sizes and styles in all models of desks, tables, cabinets and other office equipment.

H. W. WRIGLEY (PRODUCTION) LTD., 33, Brazennose Street, Manchester, 2.

"Vis-all" Visible Record Equipment: provides visibility in vertical form. Standard equipment accommodates all standard record sizes but specially designed records in *any* size can also be housed in Vis-all Patent Holders.

Posting Trays: open or covered; capacity 350 records per tray. Machine posting trays and trolleys in all standard capacities. Equipment can be supplied in steel or wood to special design and capacities where standard equipment is not suitable.

Special organization service is available; undertakes complete installation of any application of "Vis-all"; operation is without interference with users' regular routine.

See this firm's announcement, page 52.

JAMES WILKES LTD., Moxley Road Works, Bilston.

Specialists in Systems Stationery: multiple-sheet sets of forms stub-gummed, perforated at head. Sets incorporate one-time carbons eliminate inserting of loose carbons. Printed stationery for mechanized accounting systems. Continuous stationery and roll-form printing for specialized time-saving systems. Office routine stationery, duplicate books, loose-leaf work, card index and filing supplies, printed and ruled form work, etc.

LEABANK CHAIRS

Leabank Chairs for good work and good workers. Preserve the healthy and efficient upright attitude. For men and women in office or factory.

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LEABANK CHAIRS LTD.
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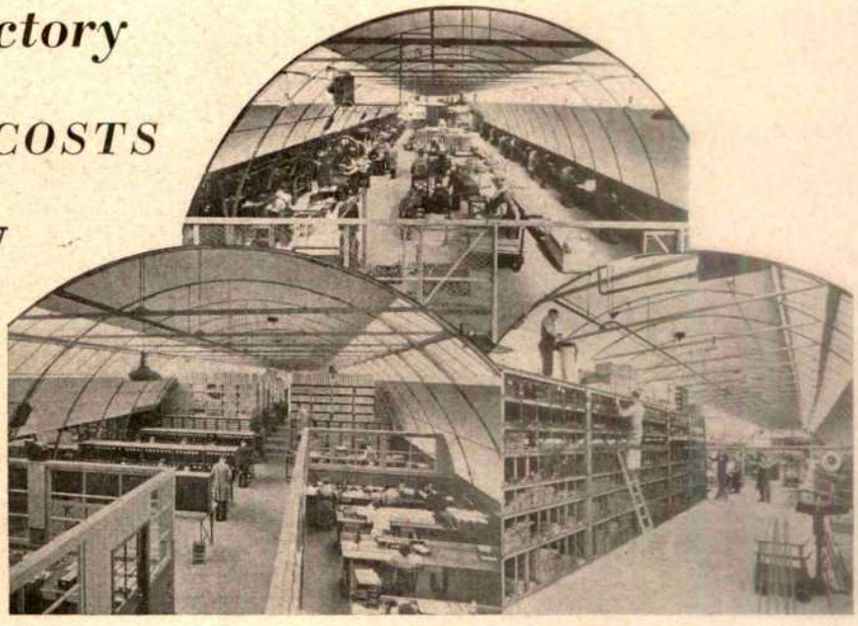
56 KINGSWAY, LONDON, W.C.2

Halve Those Factory CONSTRUCTION COSTS . . . Here's How



BOARDROOMS usually realize that a factory should be built on purely functional lines yet there are still thousands of firms which press into use for manufacturing processes buildings which were designed for other purposes. Nearly, if not every bit, as bad is the use of out-dated factory buildings. In each instance the result is similar: waste of time, labour, space, productive power and money. Such buildings are as uneconomic as nineteenth century typewriters in the office or wooden spinning wheels in the textile industry.

Perhaps the ideal factory building which meets every requirement of up-to-date production methods and systems has yet to be designed and built. In any case, most firms would find it beyond their means. But this does not mean to say that a building to meet every reasonable demand cannot be obtained easily and almost at once. And the cost is economic.

Light, Airy Interiors Are Liked by Workers

In this class can be included the Nissen steel buildings, a type of construction already well-known throughout the industrial world. These buildings are used by every kind of industry, from heavy to light. Last month I visited a factory of this type and was impressed by its light and airy interior as well as its obvious utilitarianism.

As you probably know, Nissen buildings are constructed on the semi-circular principle. Structures consist of a series of arched steel ribs spaced at a uniform distance apart. These carry purlins of timber or steel, secured by means of galvanized hook-bolts (in the case of timber) and by the ordinary method of cleats (in the case of steel purlins). The arched steel ribs span up to 50 ft. Ribs are of T section for span up to 40 ft. and light H section span for over 40 ft.

Roofing material is curved to the requisite radius. It is fixed to timber purlins by galvanized drive screws and to steel purlins by galvanized hook-bolts.

In most instances it is desirable to have an inside lining to the roof. This is arranged to provide a large air space between the outer and inner sheeting which (a) helps to establish in the building an equable temperature at all seasons of the year, (b) eliminates all condensation and (c) improves the interior appearance of the building. All these are significant and worthwhile advantages.

Linings are made from a number of materials. Chief among these are galvanized corrugated sheets, asbestos cement sheets, fibre board, plaster on metallic lathing, matchboarding and various types of manufactured composite boards. The choice depends to a large extent on what the lining is meant to do—absorb steam and damp, lessen noise, etc. But whether or not a lining is used does not affect the weatherproof qualities of the buildings. Gable ends of structure are made of timber or steel framing covered with matchboard, corrugated sheets and so on. Doors and windows can be sliding or hinged, or any size or shape. Continuous roof glazing, as in the ordinary type of factory, can be used. Indeed, the choice in these matters of detail is in no way restricted. Nor are there any difficulties in bringing through and distributing the various service lines you may need: steam, power, heat, gas, water and lighting.

Six Specific Advantages

1. **Buildings have 50 years life.**
2. **Can be dismantled and re-used.**
3. **Half cost of usual factory.**
4. **Can be erected in a few days.**
5. **Maximum freedom for plant set-up.**
6. **Maintenance costs are negligible.**

The standard type of roofing is galvanized corrugated steel sheeting. These sheets are fixed into position over the entire span. There are, in effect, no "walls". The semi-circle starts at the foundation and spans uninterruptedly from one side to the other.

Types of Roofing Available For Special Conditions

In most instances, of course, the galvanized sheeting is adequate to all needs but if it so happens that special conditions make the use of this sheeting inadvisable, other roofing can be employed. Asbestos sheeting can, for example, be used. But it is only in unusual cases that other than the galvanized sheeting is needed. For instance, it may be necessary because of a peculiar type of production or because local atmospheric conditions bring about deterioration of ordinary sheeting.

The foundations needed for Nissen structures are normally of a light and inexpensive nature. Usually a gutter formed in the concrete on either side is included as no suspended rain-water goods are required on single spans.

The buildings can be made to almost any size and adapted to suit all types of industry. Each span, whether 20, 30, 40 or 50 ft. (or any other size), provides uninterrupted floor space. Single, twin or battery form bays can be provided. The working areas available can be used for any manufacturing layout—heavy or light engineering, food production, foundry work, scientific instrument manufacture and so on. This type of building is already in use

(*Continued on page 60*)

What To Do About the Factory Act. *Sixth Article*

Watch these Vital Points Relating to *Fire Escapes . . . Doors and Lifts . . Building Operations . . . . Penalties . . . . .*

By H. SAMUELS

Author of "Law Relating to Industry," "Law Relating to Shops," "Factories Act, 1937," etc.

IN this concluding article I propose to deal with some important matters which fall outside the headings of the previous five articles.

Escape in Case of Fire

The Factories Act was drafted before the subject of A.R.P. became so prominent. In the light of the latter, however, the new provisions for preventing the risk of fire in factories and minimizing its effect assume an added importance.

Under the old law, factories employing less than 40 persons had no duty to provide means of escape from fire approved by the local authority. The new Act makes this incumbent on you if you employ more than 20 persons *OR* if you employ more than ten persons above the first floor (or more than 20 feet above the ground level) *OR* if you employ more than 10 persons above the ground floor of a factory built since July, 1937, *OR* if your factory stores explosive or highly inflammable material.

Who has to make the first move in this direction—you or the local authority? The answer is that both have to move. The local authority and the factory occupier have obligations, independent of one another, to see that the factory has proper fire escapes, and neither may simply wait for the other to take the initiative. But if you extend your factory, or make any appreciable increase in the number of your employees, or begin to store explosives or inflammable materials, then you are under the additional obligation to notify your local authority *in writing*.

Doors and Lifts

If you have a staircase leading down to the factory exit the door at the bottom must open outward. This is an additional rule to the previous rule that doors (other than sliding doors) of rooms where more than ten persons are working must open outwards. Every means of exit other than the usual exit must be marked by a notice in red lettering.

In the case of new hoists and lifts, the lift well must be lined with fire-resisting material: it must have fire-resisting doors: at the top it must have a vent or some material easily broken by fire.

Fire Warnings and Fire Drill

Here are three matters which must have your immediate attention:

1. You must see that in every workroom your material is stacked at all times so as to allow free passageway for everybody.

2. Unless you employ less than 20—and however few you employ if you handle explosives or inflammable material—you must make proper arrangements throughout your whole building for immediate warning in case of fire.

3. If you handle such material, or if you have more than 20 persons working above the first floor or more than 20 feet above ground-level, you must "take effective steps to ensure that all the persons employed are familiar with the means of escape and their use and with the routine to be followed in case of fire."

It is true that the Act does not impose fire drill in express terms. But that is surely what in all but exceptional cases this new requirement amounts to. Simply reading over to your employees rules of procedure to be followed in case of fire is hardly ensuring their familiarity with the routine.

Factories on which this obligation is imposed would be well advised to institute some scheme of periodical fire drill for all their employees.

Building Operations

A number of types of work other than strictly factory operations are brought within the Act to a large but varying extent. These include ship-building, works of engineering construction like bridge building, and building operations generally. With regard to the last two classes of work a large number of the provisions of the Act apply to them if they are to last six weeks or longer.

Note especially that the builder or engineering firm as the case may be is placed in the equivalent position of the factory occupier as regards his obligations. Thus if you are a builder engaged on roofing or extending a factory it is *you*, not the factory occupier, who must arrange for first-aid boxes or sanitary conveniences for the men who are on the building work.

Penalties

As we have seen, it is going to be more expensive for you to comply with this Act than with the previous one. But it is also going to be considerably more expensive *not* to comply with it.

The penalty under the new Act is £20 for each contravention, whereas under the old Act it was £10, and £3 in the case of working persons over hours. As the £3 in the last case is incurred in respect of every individual so employed, the new rate will make a very big difference in a large department working longer than they should.

Another point that concerns you is that in addition to the employing company itself being prosecuted, any secretary or other officer whose neglect contributed to the breach or who consented to it can be prosecuted.

Home Office Regulations

The Act provides for the continuance in force of the various orders made under the old Act until they are superseded.

The various Dangerous Trades Orders and Welfare Orders are, therefore, still in force, but during the months that this series of articles has been appearing a number of new Orders have been issued, and I would draw your particular attention, in conclusion, to those which are of general application, like the regulations regarding overtime, sanitary accommodation, operations at unfenced machinery and intervals for women and young persons.

CORRECTION

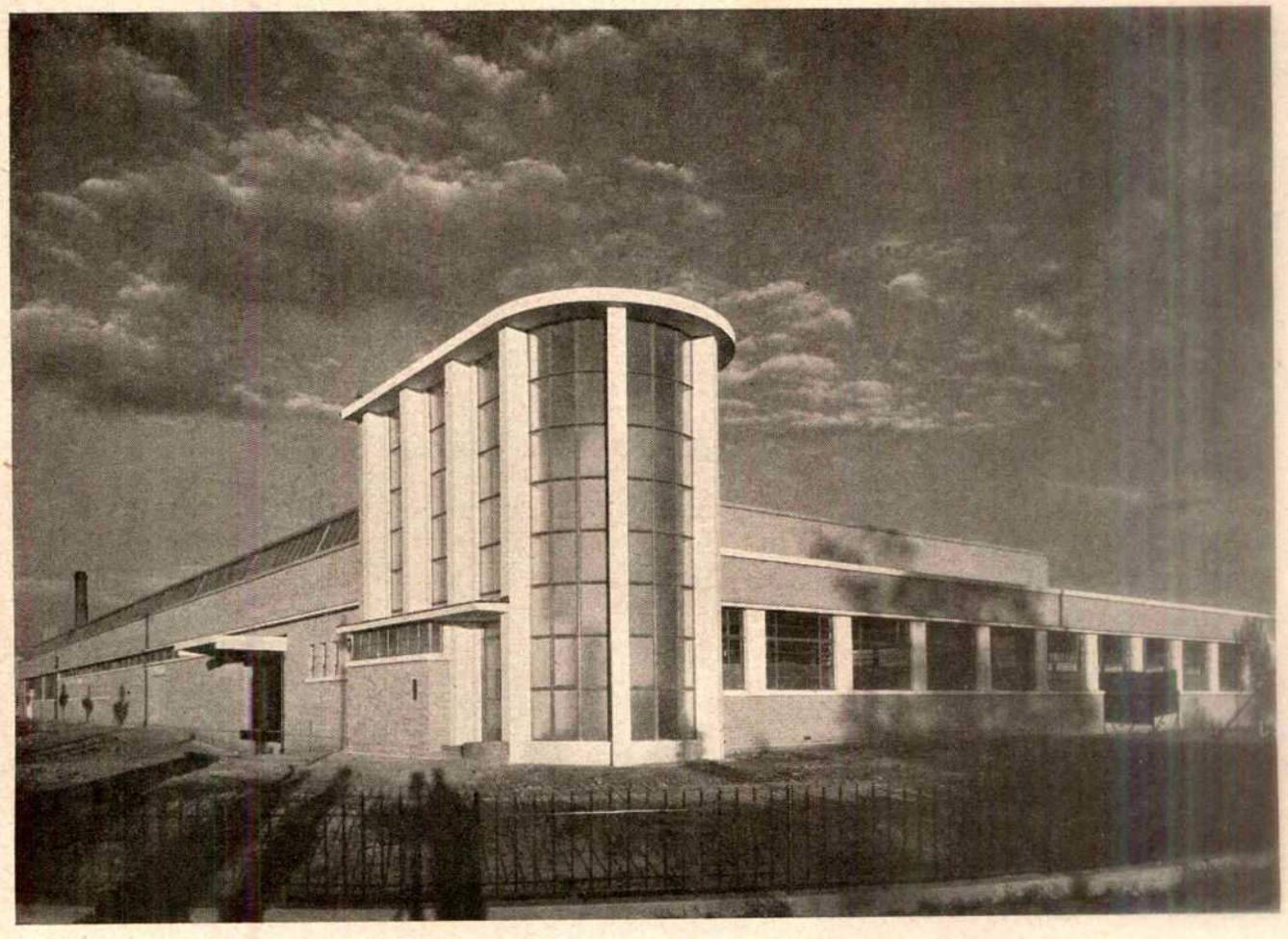
It is regretted that through an error in sub-editing a misstatement on an important point was made to appear in last month's article (page 28) on the Factories Act.

In his original draft Mr. Samuels stated the fact that:—

"After July 1st, 1939, it will not be lawful to employ a person under 16 for more than 44 working hours weekly."

By mistaking 1939 for 1938 the paragraph was sub-edited wrongly and therefore the published version read as though the limitation is now in operation.

The point has been taken up by several readers, and we are glad to correct the mistake and to let them know that they are right. We wish also to apologize to Mr. Samuels whose original statement was, of course, correct.



Faced with a heavy outlay if their existing premises are to be made to comply with the New Factory Act, a large number of manufacturers are deciding to move into brand new factories designed exactly for their purpose. CS PLANNED FACTORIES, like the one shown above that we recently constructed for Messrs. Ferguson Radio Ltd., have no relation to the factory building of the past. They are a scientific solution to a complex problem. Their size, shape and position are arrived at through an accurate analysis of the type of plant to be accommodated, the labour required and the transport facilities needed. Evolved in this way CS factories work as efficiently as the machinery within them. You can buy or rent a CS PLANNED FACTORY in any of the industrial zones in the London area. For full particulars write . . . .

Among those well-known firms already installed in **CS** *PLANNED FACTORIES* are

Imperial Airways Ltd.
C & A Modes Ltd.
Ferguson Radio Ltd.
Dunlop Rubber Co. Ltd.
I. & R. Morley Ltd.
Potter & Moore Ltd.
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planned for modern industry

COMMERCIAL STRUCTURES LTD

CONTRACTORS & ENGINEERS STAFFA ROAD LEA BRIDGE ROAD LEYTON E 10 *Leytonstone* 3678

We've Trained Men, Bought Equipment, and now we're *Building Shelters*

From an interview with T. W. PARSONS, A.M.I.Mech.E., M.I.Struct.E., Mechanical Superintendent, *News-Chronicle* and *The Star*

Rescue and decontamination squads of seven men each have been formed by the trained volunteers of the News-Chronicle *and* The Star *staff. Here is a decontamination squad ready for work, equipped with gas masks, decontamination suits, boots, gloves, etc., which have been bought by the company*

IN common with many firms we have planned, and in some instances carried out, a good deal of A.R.P. work under three heads: (1) training of employees, (2) purchase of materials and (3) provision of places of refuge.

When we considered the A.R.P. problem and consulted experts, it was apparent that the most urgent work was that of training employees in the various jobs they would have to do in the event of war. Not only does such training take a long time to complete but it is vital in the building-up of an effective emergency organization.

Fifty members of our staff volunteered for anti-gas training and were put through a complete course by the Corporation of London instructor. The course covered: nature of war gases and their detection; personal protection against gas; methods of decontaminating streets, buildings, machinery, electrical apparatus and motor vehicles; practical experience in detecting and combating gases.

The course took up three hours per day for eight days. During this time reliefs were employed to do the work of the men in training. The trained staff are now organized into rescue and decontamination squads of seven men each. One or more of these squads would be available at almost any time of day or night to clear up debris or to carry out decontamination work. Incidentally, most of the men are recruited from our maintenance staff.

Volunteers Recruited From All Departments

A further 30 members of the firm, recruited from all departments, are now attending in their free time after business hours a course of lectures in St. John's Ambulance First-aid work. Our aim here is to have one or two men and women with first-aid knowledge in each department so that there will always be present in all parts of our buildings persons competent to deal with any kind of casualty. We hope, eventually, to train about 100 of our staff in this manner. This force will be able to assist our regular first-aid men.

We have, of course, our regular staff fire brigade which, we think, is competent to deal with that side of A.R.P. work. As soon as we can find an instructor, we shall give the brigade instruction in combating incendiary bombs. We may also, later, add to the strength of the brigade or form an auxiliary force.

That, so far, summarizes our staff training work. As trained men are, however, ineffective, even in practice, without the necessary equipment, we have bought, or are buying, a reserve of materials. For the decontamination squads we have got a service-type respirator, protective suits, boots and hats, and special bins into which these articles can be put should they become contaminated with gas. We have also bought 100 yards of sand and a quantity of bleaching powder, both essential materials for decontamination and fire-fighting. We have, too, organized for further supplies of these materials to reach us at short notice and have on hand a quantity of sandbags.

Our first-aid rooms are already fully stocked with the necessary medical stores.

In the construction of refuges we have two problems: (a) our existing buildings; (b) our new building. In the existing premises we have no available space in which to build air-raid shelters, but we have rooms which, with a little additional strengthening by sandbags and timber, could give protection against blast from shells, bombs and falling debris.

Shelter Selection Based On Six Factors

There are six factors which influence our choice of rooms for use as shelters: (1) strength of floor above and supporting walls; (2) absence of heavy machinery above; (3) minimum of windows; (4) ease with which rooms can be made gas-proof; (5) ease of access to the street and to other parts of the building; (6) nearness to lavatory accommodation, etc.

In our new building (designed by R. A. Duncan, Esq., of Tubbs, Duncan & Osborne) the problem is more straightforward. We shall be able to incorpo-

(*Continued on page* 60)

A.R.P. organization mustn't rely on classroom knowledge. Realistic practice and drill is necessary. Here you see some of the volunteer staff carrying out decontamination work under conditions which are similar to those which will be faced during actual air raids

Your A.R.P. squads should be put through plenty of practice of this kind. In most instances, local authorities will co-operate in such training

This didn't 'just happen' -it had to be PLANNED!

In her equipment, just as in her construction, the "Queen Mary" had the benefit of expert planning. Appropriately, lighting equipment by Benjamin was specified in suitable parts of the ship—engine rooms, galleys, etc., and for some sports lighting.

Planned lighting by Benjamin represents the most advanced and scientific standard of illumination. Not only because of the improved efficiency it ensures but also for its greater economy, Benjamin Planned Lighting is the first choice of the leading Industrial and Commercial Organisations.

THE NEW FACTORIES ACT

now in force, makes sufficient and suitable lighting compulsory. Let Benjamin Planned Lighting safeguard you at every point!

BENJAMIN PLANNED LIGHTING

Write for Leaflet No. 1533/131 to:

THE BENJAMIN ELECTRIC LTD.
Brantwood Works, Tottenham, London, N.17.

BENJAMIN PROMOTES THE PARTNERSHIP OF LIGHT AND VISION

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• HALF THE PRICE OF NEW — AND TWICE AS GOOD!

Largest stock in England—including Desks, Filing Cabinets (Wood and Steel), Plan Cabinets, Safes, Typewriters, Adding Machines, etc., etc.

Send particulars of your requirements

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(Opposite Holborn Tube Stn.) Phone: HOLborn 8235 & 2564
and 79 VICTORIA STREET, S.W.1

TEMPERATURE CONTROL by MAGNETIC VALVES

In office

or factory

is an essential factor of EFFICIENCY

★ *Write for the book "Temperature Control for all purposes."*

THE MAGNETIC VALVE CO. LTD
BUSH HOUSE W·C·2 : PHONE·TEMPLE BAR 7777

Halve Building Costs

(*Continued from page* 55)

by firms in the whole range of industry.

Now what are the specific advantages of Nissen buildings from the director's point of view? Summed up, they are these: (1) the buildings have a life of 50 years or more; (2) at any time they can be dismantled and set up on another site, and they will be just as good as ever; (3) in capital outlay they cost *half the price* of the usual type of factory; (4) they can be erected in a matter of days as compared with months needed for the construction of ordinary buildings; (5) they provide unusual freedom for the set-up of plant, therefore, allowing the most modern type of layout and organization; (6) maintenance costs throughout the life of the buildings are negligible.

Factories Are For All Types of Firms

These six advantages provide a formidable list. They should provoke thought in the boardrooms of most firms. For this type of building is not specifically a factory for the small or the large company; it can be used by firms of all sizes and kinds. Possibly this is just the building which would meet your needs, and solve your specific problems. However that may be, it is certainly worth the investigation of executives of any firm.

We've Trained Men, Bought Equipment

(*Continued from page* 58)

rate certain strengthening features in walls and floors which will give us first-rate shelters.

In consultation with Mr. Duncan and other experts we find that the basement (reel store) of our new building can be made to provide a good measure of immunity from: (*a*) direct hits by light-weight bombs of the type most likely to be used; (*b*) incendiary bombs; (*c*) gas bombs; (*d*) effects of concussion of heavy bombs bursting in the street or vicinity; (*e*) fall of floors and debris of upper parts of the building.

The precautions to be taken are in two categories: (1) immediate and (2) future. Immediate precautions include strengthening of floors so that the garage floor will carry a load in solid concrete slab of 330 lb. per sq. ft., and the first floor will carry a load in solid concrete slab of 250 lb. per sq. ft. This first-floor slab will serve as a detonator and arrest penetration of splinters. Provision must also be made for lavatories, forming air locks and ventilation and cutting off water, gas and electricity supply to the building from a point in the shelter.

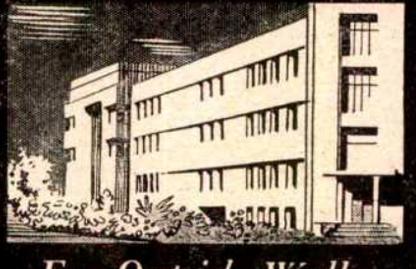
For future precautions it is necessary to form space between retaining walls and stanchions by building brick inner walls and filling the space between with sand. It will also be necessary to wedge up beams with additional supports (timber or steel) to withstand exceptional loads and to provide complete air locks, ventilation and lavatories. In addition, the garage floor will be covered with 2 ft. of sand in divided compartments.

The cost of this work is not an important factor under the circumstances. The additional strengthening of the floors, for example, is covered by the present contract figure for construction of the building, and the expense of preliminary work in forming air locks and providing services is a small matter.

Our experts estimate that the total space of shelter provided in the basement under this scheme would not be less than 7,000 sq. ft. This would provide a temporary refuge for about 600 persons. In practice, however, nothing like this number would be allowed to congregate in the shelter, as complete security cannot be provided. A direct hit from a heavy bomb, for example, might kill everyone in the shelter. During an air-raid the A.R.P. staff would be on duty and the non-active staff would be distributed in temporary shelters in other parts of the buildings. By this dispersal our staff would gain an additional measure of safety.

What Paint shall we Specify?

AN ANSWER TO EVERY PROBLEM—ON THE DECORATION SIDE!



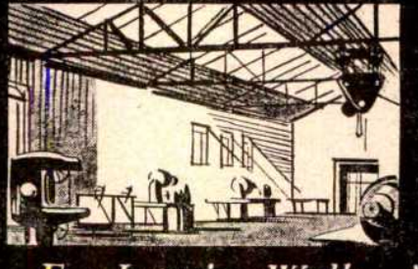
For Outside Walls

TUNGALINE

THE CONCRETE PAINT

TUNGCRETE

WEATHERPROOF IMITATION STONE PAINT



For Interior Walls

SISSONS FACTORY WHITE

Home Office Regulations permit surfaces painted with SISSONS FACTORY WHITE to stand for 7 years without repainting.

For Office Interiors

FLATOMUR

SUPERB OIL FLAT WALL FINISH

BONOGLOS

HARD BRIGHT GLOSS PAINT

OUR INDUSTRIAL DEPARTMENTS are ever ready to give free advice and specifications on any problem of decoration and a staff is employed for personal attendance at any job. Write for full information and tint cards to:

INDUSTRIAL FINISHES DEPARTMENT

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THESE ARE SISSONS PRODUCTS

Here's A New Lighting Plant For A.R.P. Use

AMONG the many emergency lighting systems which are available for A.R.P. shelters is the "Keepalite" equipment which consists of an emergency battery, means of charging the battery at a high and at a low rate and an automatic control for switching the system into and out of service.

Continuous Trickle Charge Is Used

The "Keepalite" system has been developed by the Chloride Electrical Storage Co., Ltd. The name is a generally descriptive title under which are a number of patented, special features. One of these, for example, is the well-known method of continuous trickle charging which simplifies considerably the maintenance of standby batteries. Another feature is the automatic contactor or switch which ensures that the emergency lamps light up immediately the normal lighting supply fails.

The normal electricity supply provides the charging source for "Keepalite" batteries directly through suitable resistance or other apparatus. By this means continuous trickle charge is given. As the switch is automatically re-set after resumption of normal supply, the only hand operation needed is the turning on and off of the switch which controls the higher rate of charge. Naturally, a higher rate of charge is necessary after an emergency discharge of the battery.

There's A Model To Meet Your Needs

Batteries, cabinets, control panels and other equipment can, of course, be supplied in a number of sizes to meet a wide range of requirements. For instance, a standard cubicle model takes up only this space: Height 47 in.; width 18½ in.; depth 20½ in. There is smaller as well as bigger equipment than this available. Component parts of the system can be bought separately.

Planning SUCCESS?

SUCCESSFUL PLANNING of industrial enterprise is only possible if all the essential factors prevail. There are decided reasons why Lancashire became the birthplace of British industry and why to-day it continues to attract new enterprise.

Every possible facility exists in this Area to make manufacturing and distribution most economical.

- Britain's largest consuming market within a radius of 75 miles.
- Port accommodation for vessels of every type and tonnage.
- Skilled and adaptable labour for every type of industry.
- Sites in modern industrial and rural areas.
- Special financial terms for the establishment of new factories.
- Free water supplies and effluent facilities.
- Sites along 70 miles of inland deep-water frontage.
- Highly efficient public services.
- Transport facilities by road, rail, air and water.
- Spacious factories for rent or purchase at attractive prices.
- Planned industrial estates.

Many concerns have already realised the value of these advantages —why not investigate the possibilities?

Full information and expert advice will be given on confidential enquiry to:

J. BENNETT STOREY, *General Manager,*

LANCASHIRE

INDUSTRIAL DEVELOPMENT COUNCIL

Ship Canal House, King Street, Manchester, 2

Preliminary information obtainable through the Travel & Industrial Development Association of Great Britain and Ireland, 29, Cockspur Street, London, S.W.1, British Empire Building, Rockefeller Center, New York, and 28, Avenue des Champs Elysees, Paris.

PERFECT TIMING *Builds up Records*

Yes, and perfect Time Control helps to make records of another kind; cuts out waste at every stroke, prevents lagging, increases precision, makes every day's work a winner. If it's a GLEDHILL-BROOK installation it's an Umpire because it is fair to both sides, masters and men. Please write for full information.

GLEDHILL-BROOK

TIME RECORDERS LTD.

38 EMPIRE WORKS, HUDDERSFIELD

They Give You £.S.D. If You Locate in Northern Ireland

THERE is first-rate opportunity to-day for a manufacturer to set up a factory in Northern Ireland. Help of every kind, including financial assistance, is available—a fact not generally known to business men. Nor is the importance of Ulster as a trade centre widely recognized. Each week, for instance, £2,000,000 worth of trade flows to and from this area that has manufacturing industry worth £60,000,000.

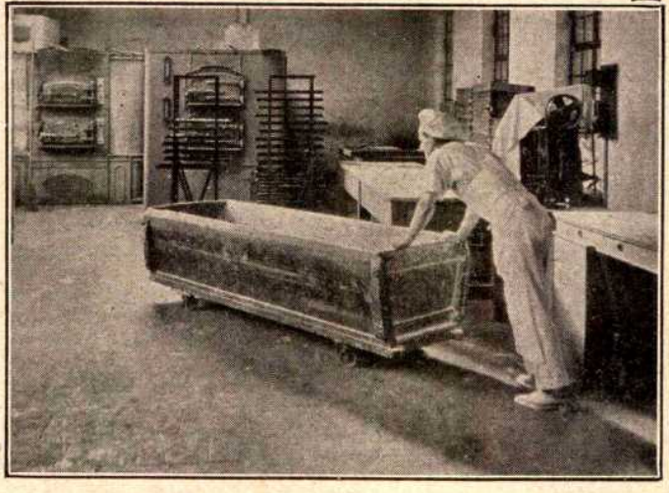
All this information in detail, together with important facts and figures about Northern Ireland, is given in an attractive coloured brochure ("Opportunities for Industry") just issued by the Ulster Development Council. The generous financial facilities provided by the Northern Government to encourage the establishment of new industrial undertakings are described in the brochure. The facilities include free sites, relief from income-tax and rates, and the provision of capital, either free or at cheap rates, for purposes of building, adaption or equipment.

The manufacturer setting up works in Ulster has the further advantages of a skilled labour force, cheap and progressive supplies of electricity, gas and water and rapid cross-channel transport that ensures economical approach to the populous market of central Scotland and the north of England.

Full Official Resources Are Behind You

The Ulster Development Council, which was recently set up by the Minister of Commerce for Northern Ireland (the Right Hon. J. Milne Barbour, M.P.), has as its Chairman Sir Roland Nugent, D.L., for many years Director of the Federation of British Industries. The Council places its full official resources at the disposal of any manufacturer interested in the possibilities opened up by the New Industries (Development) Act. Copies of the brochure are available on application to the Secretary, Ulster Development Council, Ministry of Commerce, Belfast.

What are your
INVISIBLE *Trucking Costs?*



This floor was laid in 1927 and paid for itself within 2 years. In 11 years it has not cost a penny for maintenance.

Modern methods of production make heavy demands on factory floors and unless these are sufficiently strong to withstand continual and heavy wear, they quickly become uneconomic by increasing tractive effort as well as maintenance costs. Stelcon Anchor Steel Plates and Stelcon Steel Clad Flags are dustless, hygienic and particularly wear-resistant and are therefore eminently suited for those sections of a factory floor where conditions are really severe.

STELCON *(Industrial Floors)* **LTD**
Clifford's Inn, London, E.C.4
Telephone Holborn 2916

Firebrick Cement Cuts Out Maintenance Costs

COSTLY and frequent repairs, loss of heat and premature disintegration of firebrick work, which takes place because unsatisfactory bonds are used is still a source of trouble and expense to many firms. Yet there is on the market a firebrick cement known as "Pyruma", which eliminates all these adverse factors.

These Four Big Advantages

The main advantages of "Pyruma" are these: (1) welds firebricks together edge to edge; (2) possesses the property, under changes of temperature, of adapting itself to the same coefficients of expansion and contraction as the firebricks; (3) sets to rock hardness and withstands high and intermittent heats and imparts the all-important bonding property; (4) is of standard plastic consistency, always ready for use.

Firebrick disintegration usually starts at the edges. This exposes the brick to the attack of heat, flames, fluxes, slags and abrasions. Loose joints also allow heat and gas to leak away. And, naturally, the repair bills are constant and costly.

Makes Lining Solid Mass

One of the main features of "Pyruma" is that it converts the firebrick lining into one solid mass and it wears as such. The cement thus greatly lengthens the life of firebrick linings in furnaces, boilers, kilns, ovens, etc. It also brings about saving in fuel because loss of heat and gas is stopped. Repairs and renewals, of course, are practically eliminated.

Need This New Emergency Lighting System?

A NEW type of auxiliary lighting system, operating from "Nife" nickel cadmium alkaline batteries, has just been put on the market and is especially useful as part of your A.R.P. equipment. The system is easy to operate, adaptable to all emergency conditions and low in cost. The complete lighting set, which includes batteries, control cabinet, lamps, etc., is portable and is made in five sizes ranging in output from 24 to 96 watts. In addition, there are available many different types of self-contained portable lamps designed for special emergency uses.

There Are Three Outstanding Features

The "Nife" battery is of all-steel construction and has three outstanding features: (1) it is able to stand indefinitely without suffering damage of any kind; (2) it is able to hold, without any attention, a complete charge for years; (3) the steel plates are not affected by concussion such as is caused by the explosion of a bomb near by.

These advantages make the battery ideal for A.R.P. work. Even after years of storage, a condition which ordinary batteries cannot meet, this accumulator functions instantaneously. The lighting drawn from this battery does not, of course, consume oxygen—an important point in a crowded shelter.

Hand lamps operated by "Nife" batteries are available for use in all types of bomb- and gas-proof shelters, for rescue parties and repair squads, for works decontamination parties and for executive offices. In each instance the lamps have been designed for the special work concerned.

The transportable emergency lighting set is known as the "Nife-Neverfayle" and is designed for use as an automatic plant. In normal conditions the set is connected to the ordinary mains supply. Points are wired from the set and according to the way in which controls are arranged, the lamps wired can be used (a) as normal lighting installation or (b) as a form of emergency lighting.

Further selection of controls provides that, in event of mains failure, the lamps operating as normal lighting installation will continue to operate but from the battery system. If, however, the set is used purely as a form of emergency lighting, then the failure of the ordinary lighting system would automatically bring the set into action.

Equipment Takes Up Little Space

Control gear of the emergency lighting sets is simple to operate. The cabinet containing the batteries occupies little space. The smallest model, for instance, takes up an area of 12 × 10 × 23 inches; the largest an area of 18 × 12 × 23. Batteries give off no corrosive fumes, and a wasteful trickle charge is not required. Prices of the lighting sets range from £19 17s. 6d. to £40 5s.; prices of hand lamps for individual jobs start at around 25s. each, complete with battery, bulb, case and handle.

Mortimer, Gall & Co., Ltd., have a full range of hand-lamps and lighting sets on display at their showrooms, 117 Cannon Street, London, E.C.4.

NEW CUTTING FLUID
Reduces Machining Costs

PRODUCTION executives will be interested in a new clear soluble cutting fluid that is claimed to be in advance of the normal cutting oils, and highly effective in reducing machining costs.

This fluid, *Sternopal*, is made by Sternol Ltd. Its dispersion in water results in a bright transparent liquid that remains stable for many days. And as it is also a protective against rust machined parts can be put straight into stock.

For general machine shop use 35-40 parts of water are added, so it is extremely economical. For grinding, 100 parts of water.

Technical executives who want details or to make tests, write to Sternol, Ltd., Royal London House, Finsbury Square, London, E.C.2.

He won't be back for SEVEN YEARS...

★ ★

Factory interiors painted once every seven years with FEROX White for Factories conform with the requirements of the Factories Act, and the necessity of limewashing every fourteen months, with its attendant inconvenience and increase in cost of labour and materials, is obviated.

FEROX White for Factories can be brushed or sprayed over old distemper without fear of scaling. It gives an 'eggshell' finish which is washable, non-absorbent and hard wearing, and can be made glossy or matt by the addition of oil or turpentine respectively.

FEROX WHITE FOR FACTORIES

THE WALPAMUR Co., Ltd.
DARWEN · LANCS.

Particulars of FEROX White for Factories and other industrial paints supplied on request

BREAD BRICKS or BEER...

whatever the load

I can take it!

I am the new INDIA commercial vehicle tyre

THE MARK OF SERVICE

Longleys 2064

Trunk Road Haulage—(*Continued from page* 18)

where all Thornycroft vehicles undergo their preliminary works trials.

Nothing could have pleased me more than the easy progress of the Trusty through narrow thoroughfares in Basingstoke, its ready acceleration in traffic and quick response to the steering wheel being prominent qualities of its behaviour. These, indeed, were remarkable for a vehicle carrying 8 tons dead weight.

On a machine of this size one does not expect to change the gears with a flick of the lever, but any of its speeds can be engaged silently, without fear of missing a change, thanks to the smooth action of a generously proportioned clutch and accurately graded ratios.

On hilly routes, the trunk road final reduction of 6.75 to 1 caused me to use the indirect ratios frequently, but what is known technically as a "close ratio" third gear proved of the utmost value on gradients where, with the other reduction for the back axle, top gear climbs could be made.

To demonstrate the ability of the machine in getting into its normal cruising speed from a standstill I checked the acceleration against a stopwatch; when, starting in bottom gear and engaging the other ratios at correct engine and road speeds, the speed of 20 m.p.h. was reached in 20 seconds—a remarkably good result in my opinion.

Acceleration in direct drive from 10 to 20 m.p.h. showed the engine to possess ample torque at low speeds under full load, the time occupied by this test being 22 seconds.

In normal circumstances no one ever attempts starting a commercial vehicle from top gear, but in order to satisfy myself as to the capacity of the clutch for withstanding severe stresses and to determine the qualities of the entire transmission system, I made this drastic test which produced the speed of 20 m.p.h. from rest in 47½ seconds.

By controlling the clutch pedal judiciously to prevent undue slip between its frictional elements, the engine power was absorbed evenly without producing the slightest shudder from any portion of the gearing, transmission or rear axle.

Here is The Brake Test, and on Wet Roads

The braking tests were taken on a level, though wet, road after the drums and linings had been warmed thoroughly by holding the vehicle in check on a long and steep descent. The latter is a useful test precaution and prevents crediting any machine with retardation it may not produce in service when similar conditions arise.

From 20 m.p.h. normal application of the four-wheel brakes, assisted by triple servo cylinders, brought the vehicle to rest in 3 3/5th seconds and gave a Tapley reading of 45 per cent. Here, as in the case of the two other brake tests, the retardation efficiency was affected adversely by the wet road surface. Under similar conditions, the hand brake produced an efficiency of 30 per cent and 4 seconds as stopping time.

While attempting to arrest the motion of the vehicle from 20 m.p.h by applying both brakes with full force, as in an emergency, imperfect road surface adhesion again prevented the best results which should have been far better than the 3 4/5th seconds actually obtained.

Notwithstanding the adverse conditions for these tests, the brake system gave evidence of great all-round efficiency and answered to all requirements without exertion of undue physical effort on the driver's part.

High Ratio Doesn't Prevent Good Hill Climbing

All Thornycroft vehicles are required to satisfy definite standards of hill-climbing performance when tested on this particular route which includes a long gradient with a maximum steepness of 1 in 8, invariably surmounted on second gear by Trusty models equipped with the 8.25 to 1 back axle.

We were interested therefore to see how the trunk-road model would perform on this steep hill and to note how much, if any, reserve power the four-cylinder oil-engine could produce under the handicap of a higher final drive ratio.

After climbing well towards the summit on second gear the lowest gear was engaged, this enabled us to complete the climb in excellent style at a minimum speed of 7 m.p.h.

On the return journey we indulged in several runs at maximum speed when, while holding the road with all the steadiness of a good touring car, the Trusty showed itself capable of travelling quite quickly. In addition to its economical fuel consumption the model possesses a very lively performance including rapid acceleration, good cruising speed under full load and brakes upon which one can rely in any circumstances.

FACTS AT A GLANCE

Vehicle Tested : Thornycroft "Trusty" 6½/7½ ton Lorry.

Makers : John I. Thornycroft & Co., Ltd., London & Basingstoke

Capacity : 6½ to 7½ tons (according to bodywork)

Body Length : Behind Driver's seat, 17 ft. 9 in.

Wheelbase : 12 ft. 8 in.

Fuel Consumption : 13·2 m.p.g.

Max. Gradient Climbed : 1 in 8.

Annual Tax : £50.

Vehicle Price : £1,040.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

SEPTEMBER, 1938

"DEAD AUGUST" Bogey Dead . . . . . .

report many of our customers (and invariably we find that its demise has been encompassed by putting into August sales promotion that "little more" demanded by its difficulties).

The MASSEELEY ADVERTISING UNIT

with its FLEXIBILITY (size, shape, colour and material) SPEED (at least five times faster than any other method) and all-round ECONOMY (Masseeley saves hard cash whether your run is in dozens or thousands) is as good a servant in difficult times as when times are easy. Let us demonstrate it for you on your own premises, tackling your own sales promotional problems.

MASSON SEELEY & CO. LTD

Masseeley Building

HOWICK PLACE · WESTMINSTER · S.W.1

Telephone VICTORIA 2151 (3 *lines*)

THE TREND OF TRADE

Autumn Upturn . . .

Should Bring us to 1936 Levels

By Cecil Chisholm, M.A.

AUGUST brought fresh anxieties into both the political and business situation. The advantages of Viscount Runciman's presence in Prague was largely negatived by the scale of the German manœuvres. The efforts of the Non-Intervention Committee were temporarily frustrated by General Franco's virtual refusal of the Powers' proposals for withdrawing volunteers. A serious Russo-Japanese incident nearly flamed into a further war; while finance had to bear the brunt of yet another Wall Street scare.

August 'Bears' Up: Big Trouble Avoided

ON the whole we have emerged from all these difficulties very creditably. A Russo-Japanese conflict has been avoided; the Spanish impasse will be overcome simply because the civil war must remain localized at all costs; German millions on the march disturbed, but did not shatter, Europe's sang-froid; Wall Street has recovered; France has kept the franc under reasonable control; and, despite prophets of woe, Anglo-American negotiations for a trade agreement seem to be making progress.

How have these alarums and excursions affected autumn prospects?

The question is not easy to answer because the new disturbances have made the balance between a revival and continued stagnation still more delicate by strengthening some of the negative forces.

An autumn upturn is certain: will it be normal or below normal? Will it touch 1936 or 1935 levels? That is the urgent question.

This 3-Point Probe Gives 'Yea' or 'Nay'

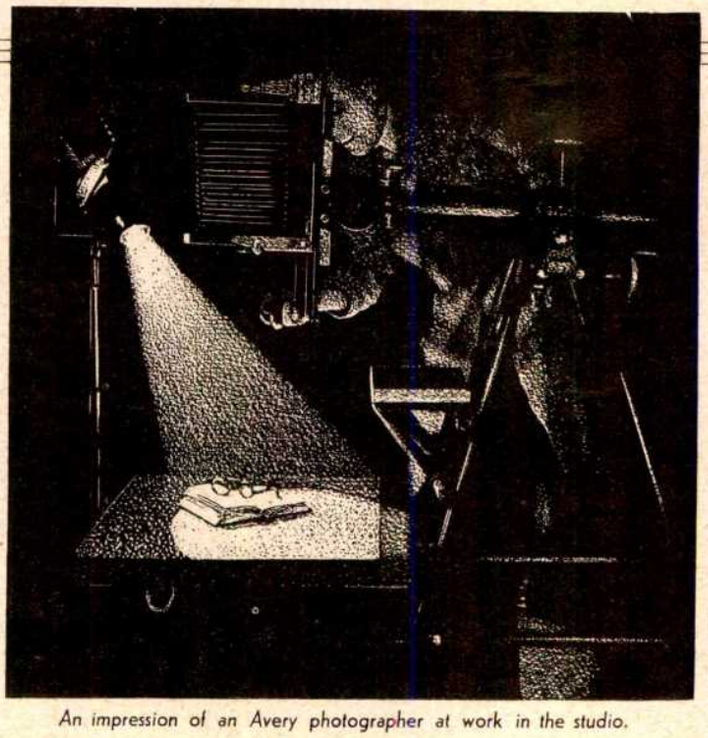
ANY answer involves three associated questions. Can we hope for a rise in raw material prices during the autumn? Will the iron and steel industries receive their normal autumn impetus? Will building activity be maintained, thanks to rearmament and slum clearance?

The answer to the first question is dependent almost entirely on the United States. A normal autumn revival in that country would do the trick. The revival in Wall Street is a happy augury; but it is not a safe guide, since conservative business opinion in America believes that it is premature.

Pump priming to the tune of £200,000,000 must inevitably help the shipbuilder, the engineer. and the farmer. A bumper harvest, with the European countries hungry for food, is another bull point. With such a harvest, and with sales assured, the American farmer must be better off this autumn than he was last. This means part payment of debts which have crippled farm development so long.

U.S. Big Business To Be Fairy Godmother?

AT last, too, the industrial index is slowly moving upwards, thanks to lower prices for basic materials, reduced building costs, and the reduction in stocks. The elections should clear up the problem of government policy for at least a couple of years. If Mr. Roosevelt wins, business must fall in line, but it will at least know where it is. If he loses big business will be compelled to back its own successes by an expansion to



An impression of an Avery photographer at work in the studio.

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AVERYS SERVICES LTD

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prove what it can do to bring better times.

Returning to America s difficulties, apart from the struggle between Government and business there is the danger of the inevitable reaction to the consequences of pump priming Apparently President Roosevelt will end the year with a deficit almost as large as the entire British budget; four times as large as his original estimate.

Labour difficulties stil exist on a large scale; if conditions improve will they not break out again to disturb the upswing?

Mr. Hull's Bait Does Not Catch World Trade Fish

FINALLY, all Mr. Cordell Hull's efforts to open the channels of trade with Canada, France, Brazil and Great Britain have had but limited results. Yet any continued prosperity in America is dependent on world wide buying of cotton, wheat, petrol, machinery and luxury goods.

On the whole the balance seems to be in favour of a genuine upswing in American business. How long the swing will last depends too largely on America's internal politics and external trade to be depictable, when her *underlying financial foundation* is so weak.

Uncle Sam Ought To Row in To-day

WITHOUT America's support, a substantial and continuous increase in commodity prices is unlikely. Given a start by America that lasts a a year or so, all may be well. But suppose the American impetus flags, can we rely on Europe and the Empire to keep the upswing going? A good deal depends on how powerful has been the upswing in this country and in the sterling group. In 1925-26 the sterling bloc did wonders, without American assistance. So we have solid reasons for hope.

Admittedly iron and steel figures for July are extremely disquieting. Seven blast furnaces were blown out; steel output fell by over 25 per cent on a year ago; iron output by over 20 per cent; and the Scottish holidays did not do that. But the fall in motor sales by 10 per cent during the past six months, and by 28 per cent in June is one explanation; overstocking in the spring from fear of higher prices is second; completion of part of the equipment of armament factories is a third; the fall in flat building is a fourth.

Reading the Indices.

North of England, Midlands and Wales show fairly good upturns on the indices published this month. This is an encouraging factor for it means that a great belt of industrial Britain is enjoying a noticeable improvement in bosiness. If this movement continues there is a good chance of an autumn upturn.

For these new indices, the average business activity in each area during 1933 is taken as the base (=100). The indices are given by months.

NORTHCLIFFE NEWSPAPERS THE 10 TEST TOWNS

TEST YOUR ADVERTISING ECONOMICALLY
IN A PROVED TEST MEDIUM
No. 8. DERBY EVENING TELEGRAPH • 1938 MARKETING BOOKLET FREE ON APPLICATION •
JOHN COOPE • Advertisement Director • NORTHCLIFFE NEWSPAPERS GROUP LIMITED. Carmelite House, London, E.C.4. Phone: Central 6000

Sales-producing **PRINTING**

IF YOUR BUSINESS *demands* printing of the best—intelligent design, good typography and faithful reproduction—our scientific organisation is at your disposal

BEMROSE & SONS, LTD.

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MIDLAND PLACE, DERBY

Now The 'Autumn' Is Here Steel Output May Go Up

AGAINST these depressing features may be put the increased orders now going out for armaments, particularly for munitions and the remarkable stability of building plans. We may look for an autumn revival in the steel industry to, with luck, the 1936 level.

Fortunately the answer to the last question is in the affirmative. Close study of building figures for plans passed, employment and allied industries shows that prospects are good for activity remaining at about the 1937 level.

So the answers to our questions are on the whole encouraging.

Between Us Our Wage Cut Is £180,000,000

CLEARLY a fall in national income has definitely set in. Mr. Colin Clark* points out that the national income will be down by £180,000,000 in 1938. Now it is impossible to have the national income from all sources reduced through the falling off in textiles, coal, in certain branches of engineering, in exports, in shipping, without strengthening the natural impetus of a downswing in the trade cycle.

The crux of the matter is this—can rearmament and a moderate American revival by raising prices make up for the inevitable deficit in our trade due to the trade cycle, international anxieties and the political restriction of trade?

Let us look at some of the indicators.

*Abstracted from a new forecast by Mr. Colin Clark in the forthcoming issue of the MARKETING SURVEY OF THE UNITED KINGDOM. (Pre-publication price 30s.)

High Price Policy Begets Low Sales

THE foreign trade figures are frankly depressing. Imports of raw materials are holding up surprisingly well; a fall of 5½ per cent in the second quarter of the year exactly balances the price drop of 5½ per cent; but the volume of manufactured exports fell by 17 per cent and their price actually rose by 5½ per cent. In fact British manufactured goods are now costing more than many foreign consumers can afford to pay. This is not surprising when one considers the way in which so many industries, coal, cotton, paper and others snatched at price fixing instead of getting down to cost reduction, when sales fell through prices being already too high.

Of course there are other reasons for the rise in British prices; rearmament has raised the prices of certain raw materials and of skilled labour; rigid wage contracts constantly impede the economies possible from improved machinery; wages rises and shorter hours are playing their part.

Foreign Orders: Up and After 'em Action Needed

YET with an increasingly adverse trade balance, with sterling over valued, it is essential that we do more export trade if we are to remedy these dangerous results of rearmament. How is it to be done unless every individual

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When next you are ordering photographs, artwork, designs or blocks for your printed literature or advertisements

Consult

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GERRARD 5231 (MANY LINES)

concerned attempts by every means in his power to reduce prices and struggles after every possible foreign order?

Fortunately the downtrend in employment seems to have been stopped in August, a remarkable achievement. Retail sales continue excellent. This is not surprising considering that wages are still rising slowly, although the cost of living has dropped 5 points since December. West-end stores provide a blot on this pleasant picture, thanks only to certain technical reasons which I have explained before.

Less pleasant is the highly complicated picture presented by Europe. Fortunately the slump in the German bourse failed to effect the European exchanges; but it does suggest the weakness of Germany's financial position.

Employment is at a record figure, not only foreign workers but many more women have been drawn into factories and fields.

Business Plays Atlas Role In German World

SO much of the activity is financed by the Government for rearmament, public works and the re-building of cities, that the entire financial structure is clearly under terrific and increasing strain. The result was a famine in cash, leading to the selling of securities and a collapse of confidence.

Fortunately this situation was got in hand before bank deposit or the mark were seriously affected. But a weak German finance is bad for Central Europe, although it may be helpful to the democratic group. Shortage of money will certainly weaken the appeal of Germany's offers to Hungary in particular. This should leave part at least of that country's trade to Great Britain, while affording a further strengthening of the Central European democratic bloc.

France has still a pack of internal troubles. The recent weakness of sterling against the dollar further weakened the franc. However, the Daladier government has lasted for a record time; it is valiantly attempting to cut many of the bonds which have been strangling French business in the form of rigid hours, rigid wages and inflexible labour agreements, even at the risk of the franc.

In Spain there is no improvement in the situation; the experts seem to agree that a third year of war is inevitable.

In China at least one further year of war is also forecast, but the weakness of the Japanese position is becoming clearer every day. An "open door" in China after the war seems to be now almost a certainty, a vital fact for British export trade.

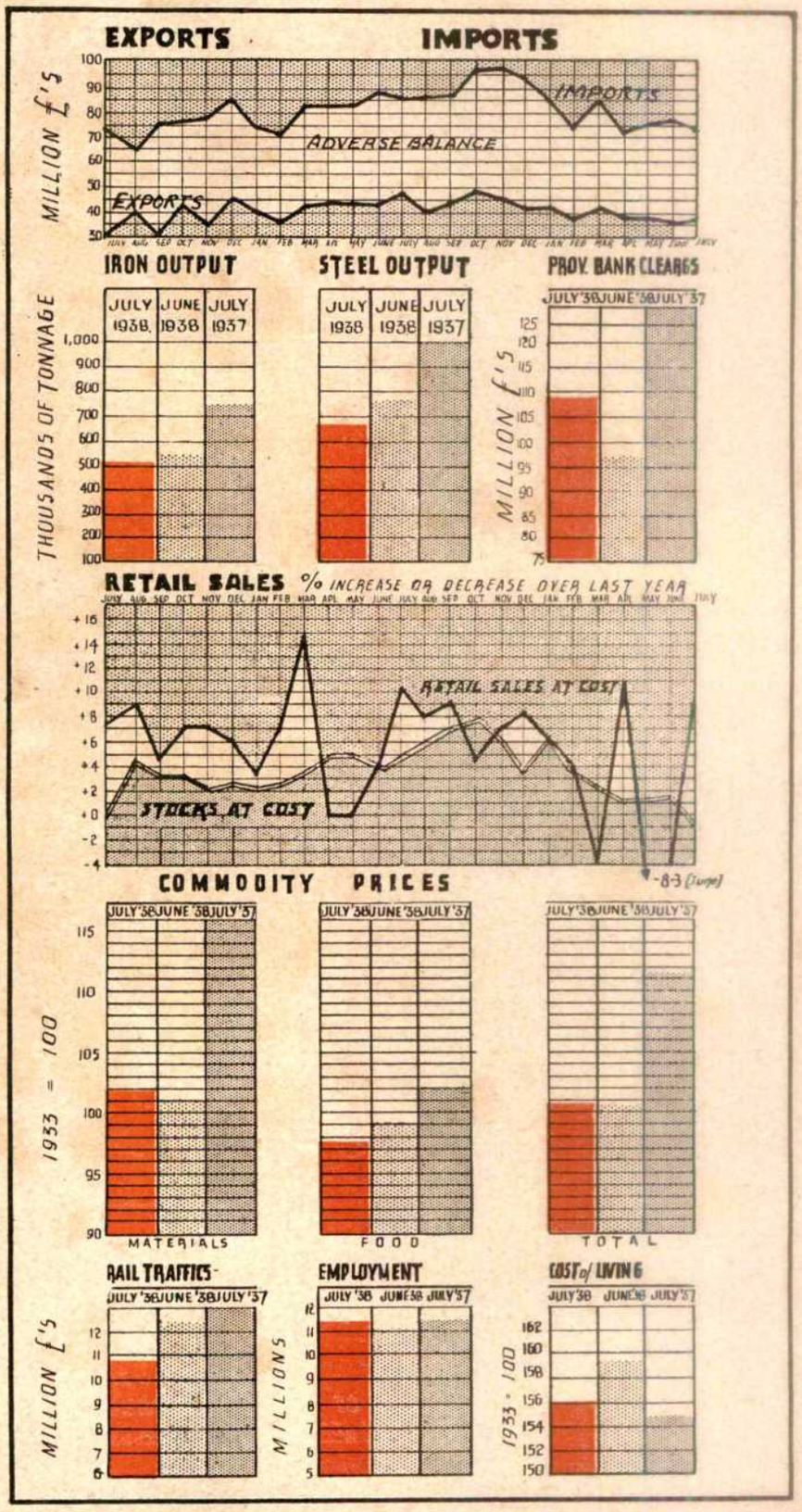
Business Is Going Up— Not Up and Up and On

SUMMING up, we may expect this autumn to see an upswing to around 1936 levels. There is no evidence to prove that it will be short and slight: nor is there any reason to expect a return of boom conditions. The immediate prospects justify the utmost efforts in selling and cost reduction from every executive who wants to seize the opportunities that undoubtedly exist for expanding business again.

Those executives who pursue a vigorous policy of sales expansion may not find immediate encouragement for their efforts. But their long-term view will be correct. Their firms will reap the benefit maybe some months from now. The important point, however, is that such businesses will be in a position to take full advantage of improved conditions; organization will be complete; costs will be fully under control and any further expansion will be well-planned.

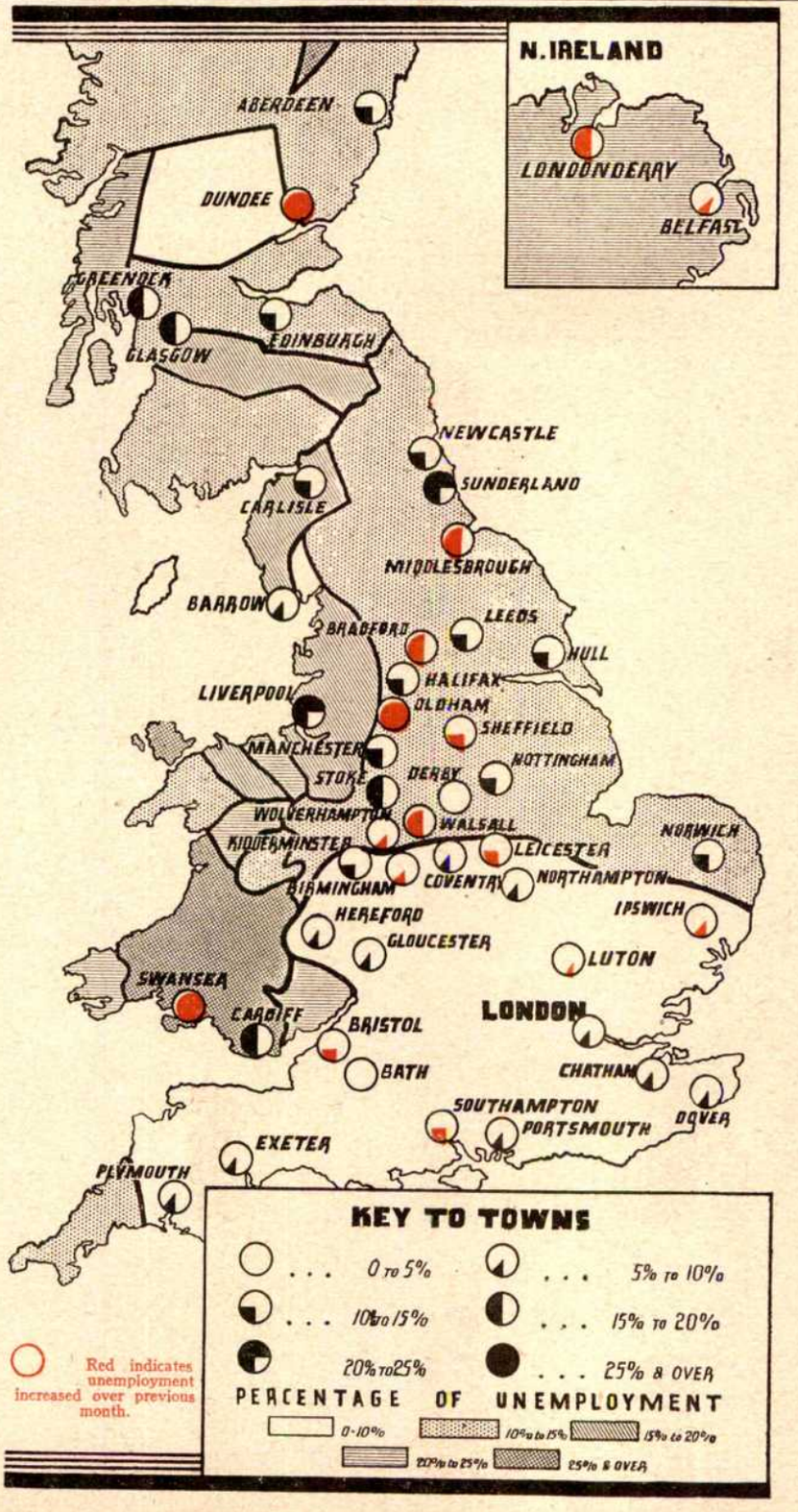
GUIDING FACTORS IN THE TREND—

All comparisons are with the similar month in last year, except unemployment



Here's *NEWS* of Active Home Markets

Aircraft Are To Be Made in former cotton mills, Ashton-under-Lyne, Lancs. A. V. Roe & Co., Ltd., Manchester, are the manufacturers reconstructing the mills for this purpose—Northern Aircraft & Engineering Products, Ltd., Manchester, are also to manufacture in a former cotton-spinning mill at Guide Bridge. Production of aeroplane components is commencing now, giving work to hundreds of skilled mechanics, sheet metal workers, woodworkers and fabric makers—Another Lancashire aircraft factory, that of Rootes, Ltd., Speke, is being enlarged by 40 per cent. Over 5,000 people will be employed there ultimately on making aeroplane frames—Manchester's new airport at Ringway, Cheshire, is open. £180,000 has already been spent on the work; further extensions, etc., will cost another £70,000.



£15,000 Of Steel For Bridge construction is being supplied to the New Zealand Government by Dorman Long, Ltd., Middlesbrough, and Cargo Fleet Iron Co., Ltd.—Vulcan Foundry, Ltd., Newton-le-Willows, Lancs, are building ten railcars for New Zealand Government Railways—Tottington & Woolford Manufacturing Co., Ltd., are reopening mills at Walshaw, near Bury, Lancs, which have been closed seven years. Machinery is being installed. Some hundreds of girls will be employed.

12,053 Tons Of Chairs are being made for the South African Railways by Head, Wrightson & Co., Ltd., Thornaby-on-Tees. Order will keep chairs department of works busy until end of this year—Whessoe Foundry & Engineering Co., Ltd., Darlington, made £56,458 more profit during financial year just ended as compared with 1936-37—Newcastle City Council since 1920 has spent over £6,000,000 on municipal housing schemes. All houses built have gas or electricity installed; some have both.

Output Four Times That of existing plant will be the result of £30,000 extensions to the Tyneside biscuit factory of L. Wright & Son, Ltd., South Shields—On a site at St. Helen's, Auckland, Co. Durham, a factory is being built by Bond Moulding & Engraving Co. Employment will be given about 50 persons at the start—Willington Quay Plywood Works, capitalized at £250,000, are now in operation—Sunderland's new £45,000 fish quay will be opened in five months' time. Already 16 distributing firms have reserved areas on the quay.

Manchester City Council, which has given financial help to firms building factories for light industry at Wythenshawe (the city's light industry estate), has decided to give similar help to firms establishing factories in the city itself. First to benefit by the new policy is a firm of commercial printers and pattern-card makers. Loan of £3,000 has been made to the company to assist in building a factory at Hulme, a central district of the city—1,000 men will be at work a year on building a factory at Blackburn. Job is for the Government. Boiler plant for the factory will be supplied by a Blackburn firm. This will give 50 men work for three months.

New Type of Heat Treatment furnace has been installed by Samuel Fox & Co., Ltd., Sheffield. Furnace is for bright annealing and normalizing of steel strip on the continuous principle. By adoption of a special heat recovery system, power consumption has been reduced 50 per cent as compared with consumption of normal furnaces—Midlands hosiery manufacturers are preparing for good, though late, autumn buying season—Nottingham laces, nets, curtains, making-up, etc., industries also anticipate an active autumn-winter season which will give more employment in the district, improve the market.

£3,000,000 Aircraft Factory is to be erected by Lord Nuffield on 120 acres' site on Corporation land at Birmingham. City Council has sanctioned negotiations for the sale. When in operation the works will employ about 15,000 people—Austin "shadow" aircraft factory, Longbridge, Birmingham, is now producing bombers. Over 5,000 employees are now at work. Number will be increased in the next three

months when full production will be reached.

Steel and Wood Chairs are to be manufactured at Wolverhampton by Stoll Chair Manufacturing Co. A site of 2½ acres has been bought by the firm. Work on factory construction is now starting. The works will supply goods for all British Empire markets as well as the market here —At Leicester a new firm has been formed to manufacture children's footwear.

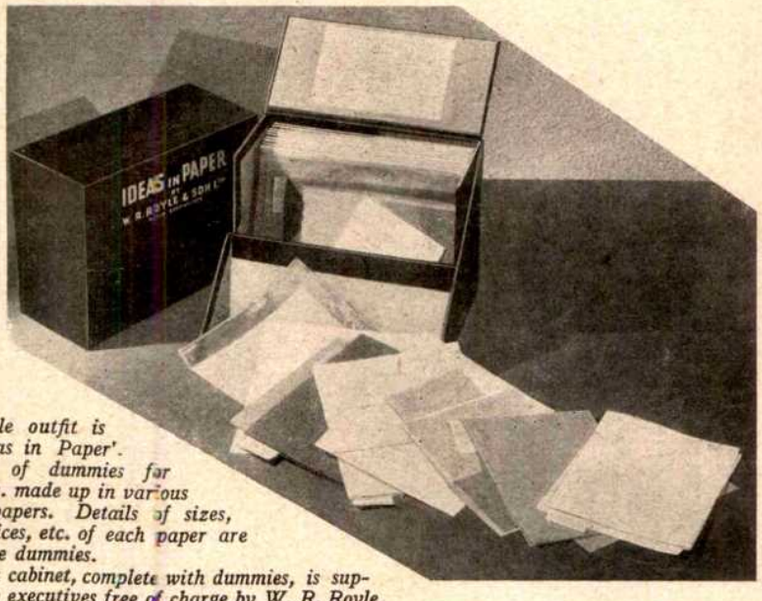
Credit Balance of Nearly £500,000 was held by South Wales collieries during second quarter 1938. This is the highest for ten years. Miners' wages are now 30 per cent above 1937 standard base rates. Output has been maintained at a total just below 9,500,000 tons. Outlook is hopeful, which suggests that trade revival in area will be maintained, providing good market for all types of consumer products—Millions £s needed to complete £10,000,000 Ebbw Vale steelworks development are being raised by big bank interests in London. When the new plant is in full operation, its output will be two-thirds of that for all Wales.

Airscrews Are To Be Made nearby Gloucester and Cheltenham airport. Rotol Airscrews, Ltd., is the firm which has established a factory for this purpose—Wide varieties of products for use in the electrical industry will be manufactured at Gloucester by the New Insulation Co., Ltd. The firm specializes in treatment of various materials with synthetic resins—A concern making steps and ladders and another manufacturing shirts and collars have taken sites on a new by-pass road built by Gloucester municipal authorities.

Over 100,000 Sq. Ft. Factory is to be erected in Glasgow by the Imperial Tobacco Co. Plant will be for the manufacture of cigarettes—At Mossend, Lanark, Colvilles, Ltd., are carrying out extensions to their works. Several furnaces for heat treatment of steel are being installed, a new dressing shop for general castings is to be erected, foundries are to be extended.

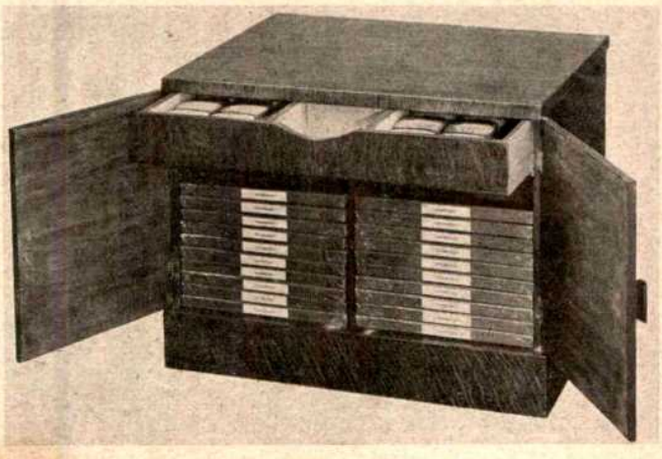
Empire Exhibition, Glasgow continues successfully, over 6,000,000 visitors having passed through the turnstiles in the first three months. Since opening day, 1,500,000 letters and postcards have gone through the Exhibition franking machines, £9,000 of postage-stamps have been sold, 14,000 inward and outward telegrams have passed through the P.O. there—Last month the world's biggest sweet pea show was staged at the Exhibition.

These Are Free To Executives



This little outfit is called 'Ideas in Paper'. It consists of dummies for booklets etc. made up in various kinds of papers. Details of sizes, weights, prices, etc. of each paper are listed on the dummies.

The desk cabinet, complete with dummies, is supplied to top executives free of charge by W. R. Royle & Son Ltd., paper specialists, Ludgate Square, London, E.C.4



Measuring 20in. wide, 15in. high and 15in. deep, this cabinet has space for 24 boxes of carbon paper, 36 or more typewriter ribbons and a quantity of cleaning accessories, erasers, etc. For the small or medium size office it provides an easy means of control of typewriter supply stock

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TO YOUR COMPETITORS'?

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Please send, without obligation, more information in connection with advertisement (or advertisements) in the September, 1938, issue of BUSINESS numbered below.

Numbers (see Index, page 5).....

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HOW TO TEACH BUSINESS CORRESPONDENCE

A BOOK brimful of ideas and methods that have secured for many teachers, directors and chief correspondents effective results in training people in the production of really efficient Business Correspondence. It aims to show "how" rather than "what" to do, making it equally valuable to the student or junior correspondent desirous of attaining perfection in the art of letter writing.

A few of the various subjects dealt with are: The Psychology of Effective Letter Writing, Clear Thinking, Personality in Writing, Reaching the Reader, Personality in Correspondence, Finding the Word that Sells, Punctuation, Function of the Dash, Words to be Avoided or Used with Judgment, Faults in Phrasing. There are also General Information Tests, Exercises and Examinations.

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RATE—2/6 a line (average 7 words to a line). Minimum 3 lines costing 7/6; each additional line or part of a line 2/6. Box No. counts as one line and is to be paid for; replies are forwarded free of charge; 2½% discount for 3 insertions, 5% for 6, 10% for 12. Payment with order for single insertion. Display panels 24/- per single column inch. Discounts as above. Special rate for "Appointments Wanted"; 3 insertions for the price of 2.

Announcements for the next issue should reach BUSINESS, *Whitefriars House, Tallis Street, E.C.4 (Phone Central 9891), not later than September 21.*

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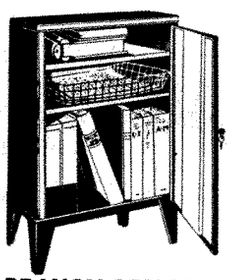
"A Large Selection of Ex-Government and OTHER STEEL AND WOOD OFFICE FURNITURE, INCLUDING FILING CABINETS, DESKS, CARD INDEX CABINETS, ETC. Also Plan Cabinets NEW AND SECONDHAND AT LOWEST PRICES.—WRITE FOR CATALOGUE, THE MISCELLANEOUS TRADING CO., LTD., 134/5 HIGH HOLBORN, W.C.1. HOLBORN 4894."



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33/-

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56 Southwark Street, LONDON, S.E.1
Phones: Hop 2158-9

Adding Machines, Calculators, Statement Machines. Typewriters and all Office equipment. New, Rebuilt and Second-hand. Bought, Sold, Exchanged.—Dixon Matthews & Co., 46 Pilgrim Street, Newcastle-upon-Tyne, 1.

Art Metal Visible Systems. If you have not had a recent demonstration you have missed the latest developments in this type of equipment. Or send for Catalogue P-60. Art Metal Construction Company, 201 Buckingham Palace Road, London, S.W.1.

HOUSE MAGAZINES

A well edited interesting house magazine, profusely illustrated, is available at very low cost for one trader's sole advertising use in each district. Write on business letterheading for specimen and quotations. Arthur May, House Magazine Specialist, Nazeing, Waltham Cross.

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Fencing for Works, Sports Grounds and Gardens. Materials only or erected complete anywhere. COATE'S FENCING LIMITED, NO. 1, FENCO BUILDINGS, BRIDGWATER.

CLOSES THE DOOR QUIETLY. NEAT, TOO. It's called the "Page" Door Closer; cheapest OIL CHECK pattern obtainable; "PAGE MINOR" for light doors, beautifully chromium-plated, 12s. 6d.; "PAGE MAJOR" for heavy doors, bronze finish, 25s.; chromium plated 27s. 6d.; 90,000 in use. Sole Makers: PARKER, WINDER & ACHURCH, LTD., 251 Broad Street, Birmingham, 1. London: 7 Gt. Marlborough Street, W.1.

CYCLE STORAGE PROBLEM SIMPLIFIED. P.W.A. Cycle Racks take any number of cycles. Sturdily made in solid steel; stand alone, back to back, or against wall as required; sheds and shelters also supplied; wonderfully compact. Write to-day for list CYRS. 105.—PARKER, WINDER & ACHURCH, LTD., 251 Broad Street, Birmingham, 1. London: 7 Gt. Marlborough Street, W.1.

APPOINTMENTS WANTED

Advertiser, aged 37, seeks responsible position. Gifted organizer and teacher; wide experience sales staff training, branch and area management; highly trained in sales organization and administration; highest references. Box 403, BUSINESS, Whitefriars House, Tallis Street, E.C.4.

Experienced Copy and Layout Man (36)

well versed in preparation of Press and Trade advertisements, folders, catalogues and booklets, seeks position with manufacturer or agency in London or Provinces. Sound knowledge production.

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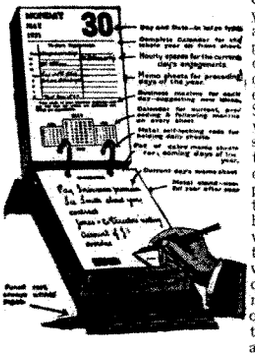
System Desk Calendars

to Give You All-the-Year-Round Publicity in 1939



"System" Desk Calendars with your business announcement printed prominently but unobtrusively on each Daily Sheet, will keep your goods or service before the notice of customers or prospective customers every hour of every working day throughout the whole year. Because they command more frequent reference than any other article of desk equipment they constitute the best form of continuous publicity at a minimum cost.

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J. J. GIBBONS LIMITED • ADVERTISING AGENTS

GETTING THINGS DONE

ADMINISTRATIVE GIFT WHICH MAKES FOR SUCCESS IN ANY FORM OF BUSINESS

BY THOMAS DIXON

THERE is nothing which so gravely handicaps the business man as a failure in the carrying out of policies which have cost him perhaps, many hours of serious thought.

One knows how these failures occur. They are not, usually, caused by deliberate neglect. The plan *starts* right, but somewhere along the line the human element fails—somebody forgets an apparently small but really vital detail and everything breaks down.

As Mr. E. B. Wilson says in his book "Getting Things Done in Business."

"Inability to get instructions carried right through is one of the most serious handicaps any executive can suffer from."

Under the conditions of modern business, the value of *the new idea* is superlative. Every old plan for getting new or more business seems to have been worked almost to death, and when a genuine idea comes along it is obviously something to be prized. The executive who can devise new ideas, new methods, is the man who makes two blades of grass grow when only one grew before.

That, of course, is the executive's main job: it ought to be his only job. The executive who has to do things himself is only working at a percentage—possibly a very small percentage—of his real productive ability.

The best of ideas is useless unless it is put into effective action. And here is where part, at least, of the trouble lies.

As every executive knows, the ideas that flash into one's mind very often bear no relation whatever to the particular subject upon which he may be engaged. That is one of the tricks our sub-consciousness plays upon us: it flings suddenly to the surface, breaking the smooth current of our thought, the result of some thought or suggestion which we have quite possibly forgotten.

How are these stray ideas to be pinned down and put to good account? If they are not so pinned down, if we trust to memory only, they are only too apt to be forgotten or lost.

There is only one really reliable and satisfactory method—the dictating machine.

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VOL. LXVIII

BUSINESS

THE COMPLETE JOURNAL OF MANAGEMENT

Incorporating "The Magazine of Commerce", "Modern Business", "System", "Business Organization and Management"

No. 10

OCTOBER, 1938

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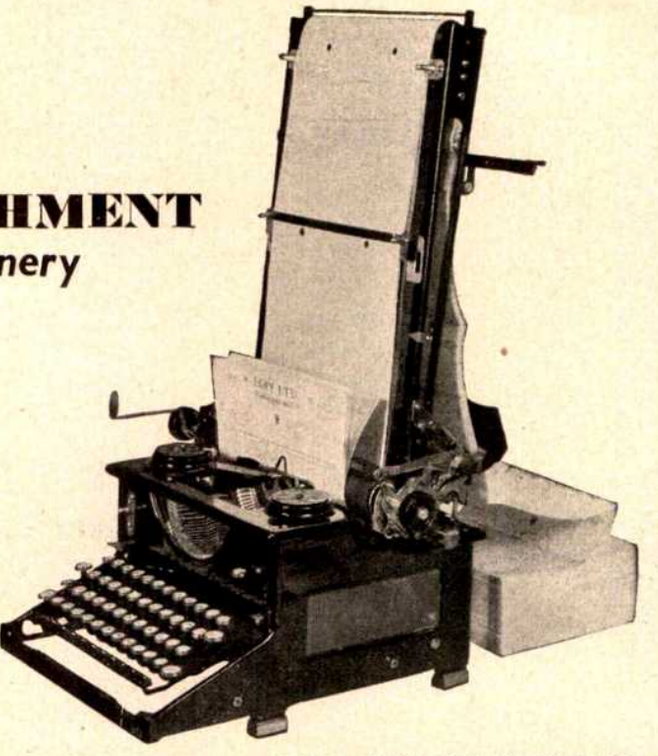

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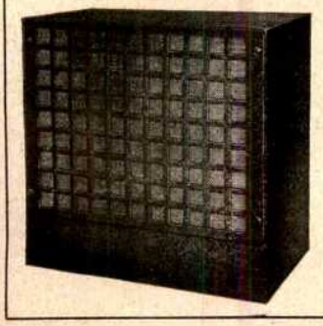

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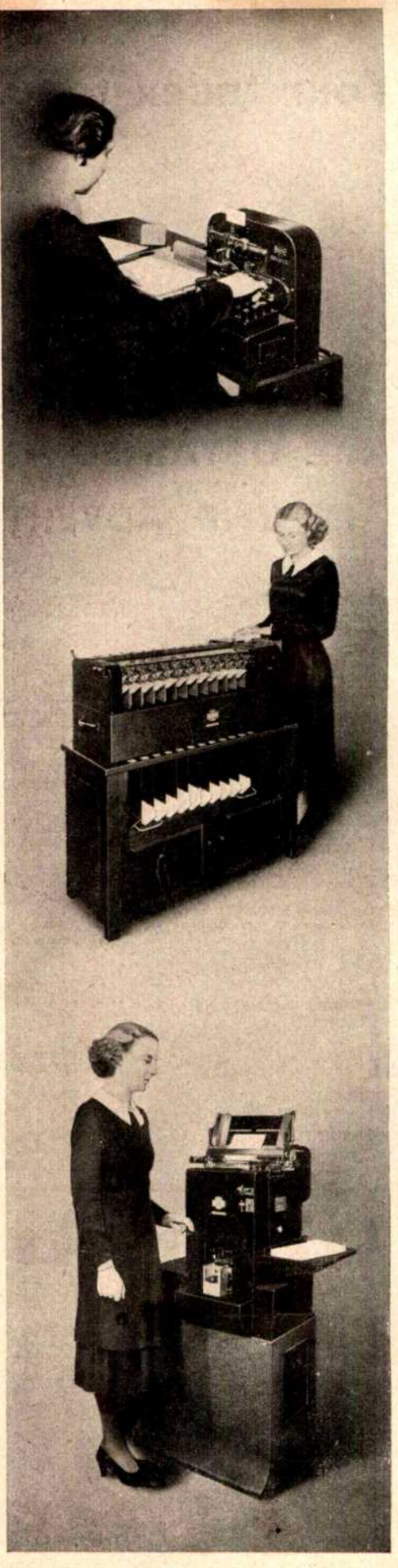

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WHATEVER Happens

CARRY ON . . .

Don't "Wait and See," that's how business paralysis starts. Momentum maintained *NOW* will give you a flying start in whatever conditions follow the crisis of to-day

IT is quite impossible at this moment to say what will have happened by the time this issue is in your hands. Aspects of the international crisis are changing almost hour by hour, but it takes several days to make-up, machine, and distribute a magazine of this kind.

What we say now, based on up-to-the-minute information though it is, may therefore be quite out of alignment with actualities of the early October days when you will be reading this.

One recommendation, however, can be urged with emphasis and safety:

No matter what may have transpired, go boldly ahead with your business, keeping an alert mind and eye for any adaptations that the country or your particular markets need.

This is not a strict advocacy of "business as usual." We know from experience that under stress of a supreme national emergency business *cannot* go on precisely as usual. What we really mean is *business energy* as usual. The same keen application—even greater application, if possible—to the facts and problems that will confront you day by day.

At the same time we must get a full understanding of this:

If Britain becomes involved in war, business is going to receive a very considerable jolt. There is no question about that.

This disturbance, however, will be only an initial shock. It will be quickly absorbed. Far more quickly absorbed than was the blow dealt by the catastrophe of 1914. Then, industry was totally unprepared for the shock which struck it. And it had no more idea than the man in the moon how to handle the situation even when it awoke to the realization that it had indeed been hit.

To-day the nation, industry and the individual are in much better case. They have watched events build up. They have the light of past experience in which to draw their conclusions and make their

plans. They are, in fact, thoroughly well braced to take a knock.

As a result of this preparedness, therefore, recovery and the consequent adjustment to a brand-new set of conditions will be both accurate and quick.

In urging business men to go boldly ahead with their affairs we therefore add the further injunction:

Follow a policy that is as elastic as possible so that this movement of readjustment shall have every chance to operate smoothly.

The two great things to avoid, at this stage at any rate, are inertia and retrenchment.

In an initial state of war these attitudes will help neither the individual nor the country. On the other hand, should the crisis be thoroughly overcome, as we fervently hope it will, the reaction will stimulate markets, and business men who have gone ca'-canny will find they have lost a lot of useful ground.

Unfortunately, there is a third alternative. There may be no war and no peace—that is, *real* peace. There may be negotiations which settle nothing permanently but which simply prolong the tension and leave open the possibility of another blow-up some time in the future.

This will be the worst condition of all. Absolutely paralysing to industry if business men permit the tension to drive them into an over-cautious state of mind.

It is in such an eventuality, therefore, that the responsibility for keeping things going will be greater than ever.

If businesses *are* kept going; if the heads of firms will use their energy, resource and courage to buy their materials, develop their production, press forward with their campaigns of sales promotion, and—above all—*to refrain from negative talk*, then there is no reason in the world why our country's industry should not swing along on its accustomed level.

All this is in the nature of generalities. But what are the *specific* things to do? Preparing, as it is wise to do, for the dreaded alternative, what are the factors to which the business man must give his immediate attention?

First and foremost, *keep your business going*. Next, plan a policy of elasticity. Investigate at once to see if your plant and staff can be adapted to national service, or to what extent it can be partially adapted. Foresight and intelligent organization in this direction at the outset will serve two ends. It will go a tremendous way towards smoothing the link-up of the country's power to meet an emergency, and it will save you personally from the many worries inseparable from a too sudden switch-over to new conditions.

From general policy you then come down to detail. You may or may not have to sacrifice a certain amount of labour. In either case there is every advantage to be gained by concentrating on those things that will save time and human energy.

The war period of 1914-18 taught countless invaluable lessons in this direction. Lessons that laid the foundations for many of the efficiency devices and systems that are the basis of the best equipment and methods which we use as commonplaces to-day.

But crisis or no crisis, war or no war, measures such as these are infinitely worth while. Industry right now has everything to gain and nothing to lose by putting them into vigorous operation.

In closing this issue for press, therefore, may we finally urge this recommendation to carry on boldly with business and to preserve a far-seeing and elastic policy that will enable you AS QUICKLY AS POSSIBLE to adapt all your resources to the particular needs of the moment.

Its Still ... CARRY ON!

As machines got the O.K. to run off this issue the good news of Peace came through. But what we recommend in this opening article and our Trend (p.44), written under threat of war, still holds. Go on with plans: Keep up momentum: Don't merely "WAIT AND SEE"

Fred. Poulton
EDITOR

Business Men Write to Us . . .

At a time like the present it becomes more than ever necessary for those in whose hands the control of large industrial undertakings is placed to show courage and bold continuance of progress.

Hesitancy or nervous clamping-down of activity will only react unfavourably throughout industry as a whole.

SIR HAROLD BOWDEN
Chairman, The Raleigh Cycle Co., Ltd.

The policy which we are following at this time of crisis—and it is a line that all businesses could with advantage adopt—is to face the facts with our coats off, and not with our collars tucked up around our ears.

Instead of retrenching we are increasing the pressure behind all our sales promotion plans by two-and-a-half times. Particularly are we pushing what are normally subsidiary lines of our products.

JOHN BEHARRELL
Mg. Dir. Hawker & Botwood, Ltd. (Fertilizer Mfrs.)

The present lamentable situation gives plenty of opportunity for the optimist—and the pessimist—to advance their ideas.

Business history, however, proves that the successful firms are those who take advantage of temporary depressions, continue or increase their publicity, and reap a just reward. To buy, to advertise and to work is at the moment a patriotic duty to oneself and the country. It will be amply repaid.

A. COLIN KINGHAM
Managing Director, Rolls Razor, Ltd.

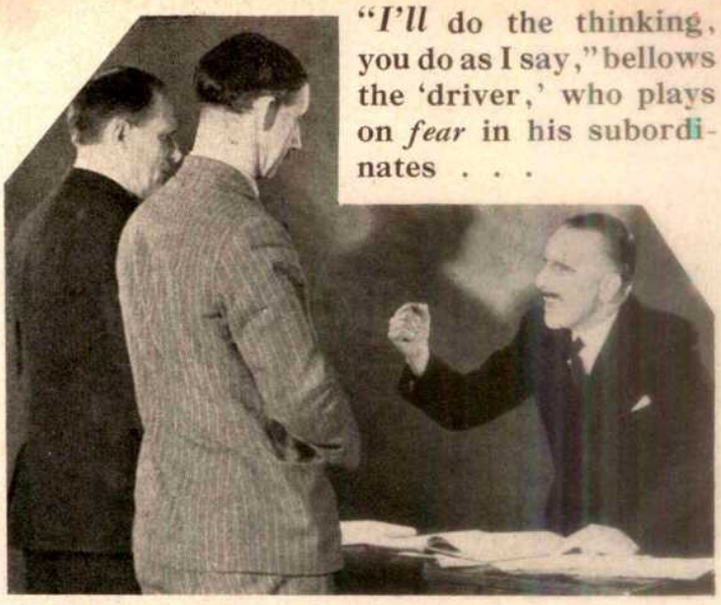
Fortune never crowns the craven, except by fickle chance, and then to his confounding. It is to vision and courage to carry into effect that deserved reward descends. Now is the time for vision and courage.

We believe it, subscribe to it, act on it. Our development programme goes ahead. We are not in the doldrums. Our sales continue to expand. We are well ahead of last year to date. Here's to our courageous companions in the race.

S. W. LEVERS
The Rawlplug Co., Ltd.

Getting Things *DONE*

DRIVING versus LEADING



"*I'll* do the thinking, you do as I say," bellows the 'driver,' who plays on *fear* in his subordinates . . .

AT the end of last month's article we reached the point where it is necessary to consider the two general methods of getting instructions carried out. They are:

(1) Driving subordinates to see the job right through.
(2) Leading them, so that they are willing to observe instructions.

Let us see how Mr. E. B. Wilson* compares the merits of these two policies.

The executive who drives endeavours to get his instructions carried out by the appeal of fear—by worrying and even threatening his subordinates.

The leader, on the other hand, deliberately sets out to eliminate fear and worry and threats. He tries to get results by creating an understanding of instructions and a willingness and a desire to observe them.

Driving, unfortunately, is still a widespread method, primarily because it is easier to follow and because it apparently is a fairly successful method.

Some executives who drive, quickly point out if their methods are challenged that driving works in the army and therefore will work in business. And it is true there are times when driving does work in business, times when it is the one best method to use. But beyond the exceptional occasion driving is open to serious question.

Driving works in the army because the army can back up its commands and instructions with something a lot heavier than any business can resort to. Also the army can appeal to far deeper emotions than business can play on.

Thus, this defence of driving is patently based on a false comparison. And analysis of the methods used by executives who drive and of their effect on the subordinate gives convincing evidence against the practice of driving as a technique of management.

'Fear' Tactics Operate in Several Ways

The driver, relying principally on fear, works in many ways.

He discharges employees, often on slight provocation, in order to make the rest of his subordinates afraid that they too will be fired. He backs up his orders and his criticism with threats of discharge. He belittles and shames and criticizes with the expectation that subordinates will do as he wishes in order to avoid such experiences in the future.

In addition to relying on fear and worry, the driver usually follows other practices which, though not essential to his general method, have a direct bearing on the sort of results he gets. They include:

Refusing to Justify His Orders: A driver usually wants no questions asked. His word is to be law. Subordinates are to follow his dictates because he says so. "I'll do the thinking; you do what I tell you," is his injunction.

Asking Too Much of Subordinates: The driver assigns jobs according to his needs, with little respect for time or the amount of labour involved. He follows the very questionable theory that the more you ask, the more you get.

Criticizing Unreasonably: The driver finds fault whenever possible, just to "keep the men on their toes." He criticizes petty mistakes and usually refuses to recognize that conditions may justify a man being behind with his work or deviating from a set of rules.

Never Commending Good Work: Another technique of the driver. He believes that by holding praise just out of reach is another means of keeping men on their toes.

Unfair Competition: Back-stairs methods of urging subordinates into competition with one another, "confidentially" egging one man to put something over on another is an indirect form of driving. By doing this the driver imagines that he can not only get a bit extra out of his men, but that he can also get them to act as an automatic check on one another.

Granting that most employees prefer not to lose their jobs, even though they

**Getting Things Done in Business.* McGraw-Hill, Aldwych House, W.C.2.

The 'leader,' on the other hand, by constructive 'reason why' tactics develops his subordinates' responsibilities. He inspires them to feel 'it's up to them'

will risk the loss under certain conditions, there nevertheless are three main reasons why these tactics of the driver can never be successful as a consistent policy:

Driving Won't Work Because—

1. *Worry Reduces Work Output*

When a subordinate is worried he cannot give his full and best attention to his work. When a man is worried *his mind concentrates on the subject he is disturbed about*. Automatically, the more thought he gives to his worries, the less he gives to his work.

For example, a departmental manager who is constantly harassed because he did not, or cannot, produce certain results begins to fear he will be fired or subjected to pretty stiff censure. The fear of these possibilities comes to the forefront of his mind to such an extent that the importance of the work in hand recedes and gives place gradually to thought and effort directed towards lining up a new job in some other firm where the policies of management are *con*-structive instead of *de*-structive.

A publicity man whose work is constantly criticized on petty points will lose confidence. And confidence is essential in a creative man.

An office manager who is worried communicates his unrest to the whole staff under him.

2. *Labour Turnover Will Be High*

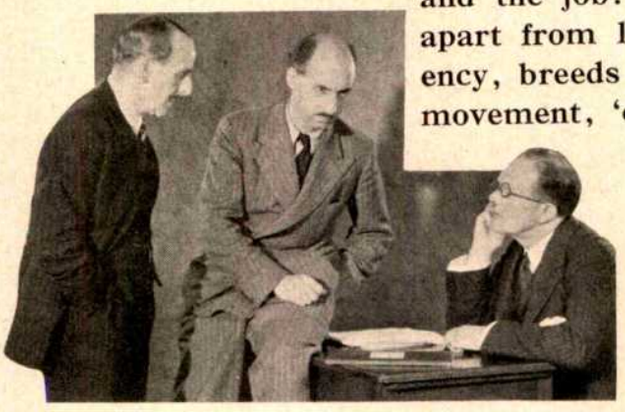
The driver who frequently discharges or loses men will be faced with a string of new, inexperienced people to break in. As a result work output is bound to be reduced and costs inevitably rise.

Most progressive concerns do all in their power to decrease labour turnover since they know it is one of the most unsettling and expensive factors that management has to deal with. The

(*Continued on page 24*)

Office Politics are a menace . . .

'Driving' creates resentment against both the driver and the job. Resentment, apart from lowering efficiency, breeds that insidious movement, 'office politics,' the most unsettling influence that can be suffered by any concern



The *Broader View* . . .

By ROBERT R. UPDEGRAFF

Author of "Yours to Venture"

Trend to Mechanization

It always seems as though the machine had reached its logical limit and that, though machinery could be refined and improved, the mechanization of work and living could hardly extend any farther. Our forebears thought so when the railroad became accepted as the fastest means of travel. To-day we may think that mechanization has pretty well covered industrial and business processes.

Yet the trend to mechanization continues, and every year makes further advances into what we used to call skilled or creative work.

No business man can afford to close his eyes to the threat—or possibilities—of further mechanization in his own field. There may be startling new ways in which he can take advantage of mechanization, or it may suddenly affect him adversely in some competitive way. It is a trend to be watched.

Observe First, Then Act

A tyre manufacturer, sitting in his own garden one Sunday afternoon during the last business depression, observed that a surprisingly large number of the cars going past were equipped with badly worn tyres. The whole tyre industry was suffering poor business, and production was at low ebb.

Next morning this tyre manufacturer's observation was translated into action. To the amazement of his colleagues he ordered production to be stepped up immediately. There was no great upturn in orders, he admitted, but there would be very soon; motor car tyres were worn out.

Within a few weeks the tyre business became active. The industry had small stocks, and prices soared. But this particular manufacturer was ready with plenty of tyres, and realized a handsome profit on his Sunday afternoon observation.

Whatever a man's business may be, he will do well to make a practice of observing the homely facts and situations around him. But even this will avail him little unless he clinches his observation with appropriate action.

On Adding Outside Lines

I wonder if it often pays a manufacturer to add associated lines to his main line of manufactures, or whether:

(1) It scatters his sales energy too much.

(2) He finds competition keener than he anticipated.

(3) He finds the new line harder to make than he expected.

(4) He loses money for so long that in the end it would have been better if he had kept out of the new line.

I am not saying that any of these things invariably happen; rather, I am sounding a caution to those who may become unduly enthusiastic over the greener pastures in the adjoining field, or develop too much of an expansion urge.

Problems to Solve

Nearly every business may be considered as a problem-solving enterprise. Whether engaged in producing, processing, or servicing, its task is to solve particular problems for people called customers. It follows that there are two major prerequisites to a successful business: first, that the problems it solves be sufficiently common to afford a reasonably large market; second, that it solve them economically or efficiently. It would pay many a business head to re-examine his own business as a problem-solver, and then to check it against these two specifications.

Incidentally, the same factors hold true for the individual in any business. He, too, is engaged in solving problems, and the individual who is likely to stand highest in an organization is the one whose problems are most important, and who solves them most effectively.

Psychology of Change

It is human nature, so the psychologists say, to remember only the facts favourable to one's cause, and to forget equally important ones that have an unpleasant or unfavourable connotation.

The same psychology applies to anticipation of future events. Change, as we all know, is inevitable. It is equally elemental that some changes will affect us (or our businesses) favourably, while others will have an unfavourable effect. Yet most of us have a way of anticipating favourable changes, and showing surprise and resentment over the unfavourable ones.

Business managers must ever be alert for this psychological trait, for many a business that was seemingly sound has been wrecked on the rocks of unexpected change, either technological or social. Being constantly alert to the threats on the horizon, and going out to meet them half way instead of waiting for them to arrive on one's doorstep, is the best kind of business insurance.

●

The most valuable experience any man can have is to be proved, every so often, to be thoroughly wrong about something.

●

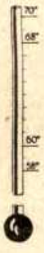
The ability to *use* what we know is more important than knowing much.

You'll be *Interested in These*

What Does it Cost to Heat Your Building?

EXECUTIVES with responsibility for controlling the costs of heating are invited to glance over a booklet which sets out some very useful facts.

This booklet views heating costs from a severely practical angle. It takes the five main methods of heating in use to-day, and gives you cost-for-cost comparisons on an actual space-heating basis. It enables you to estimate very closely the heat requirements of your own premises, and shows you how to meet those requirements with maximum economy.



The five types of fuel dealt with —electricity, gas, oil, coke, and coal—are, of course, subject to considerable price variations in different parts of the country. Therefore the tables given include a sufficiently wide range of price gradations to enable you to select whatever figures apply to your own locality.

A copy of this booklet, *Comparative Heating Costs*, can be obtained from Nu-Way Heating Plants, Ltd., Macdonald Street, Birmingham, 5.

The Poster Stamp Does a Real job

THE poster stamp combines the eye-catching appeal of the big hoarding with the "personalized" forcefulness of direct mail. That is a pretty efficient job and accounts for the tremendous range of uses to which business houses are putting this effective and extraordinarily cheap form of publicity to-day.

Most executives know what a poster stamp is. But do you know what attractive designs can be produced? Do you know how a series can be planned to describe the whole history of your product? How it can be made to tie-in with Press publicity, window displays, exhibitions, posters and other sales promotion campaigns?

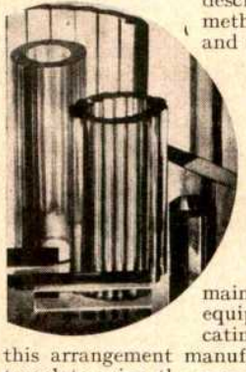
Did you know that so popular is the well-produced poster stamp with the general public that the collection and study of them has grown into a national hobby? Did you know there was a Poster Stamp Association, which serves the interests of stamp users and collectors?

Brilliantly executed in colour, the poster stamp stands out in powerful contrast on all your letters, envelopes, statements, circulars, etc. Thus it enters a *picked market* and involves no extra distribution costs.

If you would like to know more about the scope of these poster stamps—how you could use them in your business and to have 120 or so examples of the proved best stamps that have been employed by all kinds of organizations in the last few years—write to Samuel Jones, Ltd., for a copy of *The Poster Stamp To-day*. The address is Bridewell Place, London, E.C.4. The book is free.

Booklet on a New Solid Plastic

"CATALIN" is a new synthetic resin material of very particular interest to manufacturers in the sphere of plastics.



A special booklet has been issued describing the nature, methods of working, and the fields of application of this product. A copy can be obtained from Catalin, Ltd., 3 Vere Street, London, W.1.

To prospective users of this product an interesting point is that Catalin, Ltd., maintain a specially equipped sample fabricating shop. Through this arrangement manufacturers who contemplate using the new plastic can test its application to their particular needs, or, if they are already users, they can thus "research" on new lines with a minimum trouble and expense.

For Miniature Camera Users

IN view of the rapidly increasing extent to which the precision miniature camera is being used in business we recently reviewed a comprehensive manual on camera operation*.

The same publishers have now issued an equally practical handbook: *Processing Miniature Films* (not Cine films) that will interest miniature camera users whether they use their cameras for business or otherwise.

This book caters for the fact that, because miniature films must almost invariably be subject to considerable enlargement, processing must be correspondingly more careful and accurate. Not the same liberties are permissible with these films as with the big standard sizes.

*BUSINESS for June 1938, page 13.

The author, therefore, covers the field in a plane that is sufficiently above the elementary but short of the purely scientific to be of real practical use to the serious "amateur."

The book is by P. K. Turner and is published by Link House Publications, Ltd., 300-304 Gray's Inn Road, London, W.C.1. Price 2s. 6d. net, post 3d

Phrase-Prompter at Your Elbow

FOR the business man there are all sorts of desk-books and works of reference on this and that, but a handy place undoubtedly exists for yet another—one of a rather different kind.

This additional book is one that is packed full of lively ammunition for the business executive who at any time wants something appropriately snappy with which to liven up a speech or address, a written treatise, report, letter, and so on.

Under the title *The Speaker's Desk Book* (Putnam, 10s. 6d.) are gathered together 5,000 sparkling epigrams, all classified ready for use, and 1,187 anecdotes and new material arranged for public speaking. An index of general headings for each section enables any topic to be quickly found.

The fact that this book is apparently of American origin is favourable rather than otherwise. It means that its scope is broader. The American flavour does not predominate; the editor has been industrious in getting together under one cover nearly 600 pages of the brightest stuff in the English language.

Bank and Insurance Reference Book for the Board-room

ALL business men who have to make decisions on the finances of their firms will want to have on hand *The Bank and Insurance Shares Year Book 1938* (Published by Trust of Insurance Shares, Ltd., price 10s. 6d.). This third enlarged edition gives in detailed form most of the information which a board of directors must know about banks, discount and insurance companies. It becomes, in effect, a reliable guide to investment of company money and it gives, too, information which is valuable when a firm is in search of financial support.

Among the contents of this edition are a series of analyses of the accounts of 59 leading banks and discount companies and 37 insurance companies for the past seven years; a complete record of share prices, dividends and yields over a period of 21 years—from 1917 to 1937—and a directory of directors of banks and insurance companies. It also gives particulars of bank and insurance company absorptions and amalgamations, and fifteen statistical tables which make a valuable aggregate summary of assets, liabilities, investments, profits, etc., during the past ten years of British banks and insurance companies. In addition, there is an article on the structure of British banking system, one on the underwriting results for 1937 and information on unit trust methods of investing in shares of British bank, insurance and investment trust companies.

This is a comprehensive and authoritative work which should find a place in every board-room.

IDEAS for Busy Sales Managers

Price Cut Appeals Strongly Just Now

IN a time of crisis, when the all too prevalent danger is for prices to be put up, a well known brand of sardines is substantially slashed in prices—from 9d. to 7½d. Result, a gratifying expansion in sales, especially in the thickly populated areas throughout the country.

'Prep' Not 'Pep' School Is Key To This Firm's Success

THE managing director of one of the most successful neon sign manufacturers in this country recently stated that the company's progress was chiefly due to the methods used in training sales staff. The firm's policy is to teach the salesmen all about the product and the business. The usual type of "parrot talk" is ignored.

Now here is policy and method which would stimulate sales for many concerns. Salesmen trained in this manner have a sound knowledge of the goods they sell and can talk authoritatively to customers. In the company concerned, for example, a salesman's training consists of weeks spent in the factory, in the head office, in the maintenance and repairs work and in the erection department. By the time he has got through these sections of the business he has all essential knowledge for building business in the way desired by the directors.

As for the salesman's "patter," the winning personality and captivating charm, the firm sets no special standard. Men taken on the staff are, of course, selected because they have natural abilities and talents for salesmanship. The training is aimed to provide the men with knowledge that will enable them to make full use of their talents.

The value of this training shows in the company's turnover. In about ten years this has risen from zero to over £250,000 a year.

Logically Connected Premium Gift

A LARGE cup and saucer given away with a single 1s. 4d. lb. tin of chocolate is putting up sales of Cadbury's Red Label drinking chocolate.

The tie-up of this premium gift is topical and well planned. Chocolate, especially among the mass market where the makers are endeavouring to popularize it, invariably favour the big cup. A smaller, more delicate cup and saucer would in all probability not appeal.

Selected Reports Save Salesman's Time

SLAVISH filling up by salesmen of daily reports has often been condemned but there is still a big waste of time and energy in this respect. To exercise this type of control is frequently worse than to have *no* control over the salesman.

A successful compromise in this matter is the type of system worked by a London manufacturer whose methods could be adopted by many firms. Salesmen in this concern are told that they are their "own boss," within certain limits. They are not asked for daily reports, but when a customer has got to the point of asking for an estimate or shows that he is really considering placing an order the salesmen must make out a report.

This report is filed and signalled for attention at a specified date. When that times arrives the sales manager passes it back to the salesman concerned and asks for information on the state of negotiations—whether a sale has been made, if the matter is in abeyance or whether the order has been lost.

Lost Orders Strengthen Weak Points

If an order is lost, the salesman is asked the reason why. This is not done in a hostile way. Frequently the sales manager raises no further comment on the matter, but there are many occasions when he can discuss the lost order with the salesman. From these discussions come suggestions that prevent loss of other orders under similar circumstances. Through them, too, it is often possible to strengthen a salesman at his weak points.

Results of this system have been good. If a man fails to work as he should the fact soon shows in his figures. The firm would find out no sooner by having the man fill up reports on each day's calls, especially as much of the information may easily be concocted.

Indirect Propaganda That Pays Well

MORE and more firms are using what might be called "goodwill" printing. A firm of printers that has literally built up a big business through a small monthly house magazine has now increased its issue to bi-monthly.

A firm of fertilizer manufacturers, having done so well with a monthly trade letter to customers, has decided to expand it to an 8-page booklet.

A paper maker has just increased his appropriation for the issue of a monthly folder printed on various specimens of paper which he manufactures.

THE point is that in none of these publications is the matter solely directed to sell the goods.

The printer's booklet, for example, is full of items of purely general interest. Only its type-style and make-up is changed each month to convey the message of good printing.

The fertilizer trade letter is an interestingly written forecast of the month's trend of business conditions. Naturally it is pointed somewhat in the direction of the agricultural industry, but its whole aim is to *help* the farmer and market gardener.

The paper maker's simple folder contains only one item of matter. Generally this is about 400 words on something of general topical interest, but *never* about paper. The only paper tie-up is a note at the foot saying "this paper is our cover-paper No. so-and-so," or something like that. And "It is one of the best sales promotion items we have used," commented a director of this concern.

'Meet My Salesman' Campaigns Pay With Increased Sales

THE practice of "cold canvassing" is often a waste of salesmen's time, especially when there are other forms of first approach available. Tests show that a much higher percentage of sales results when an approach has been made to prospective customers prior to the salesman's call.

In the Midlands recently a manufacturing concern, selling a household product, found it paid them to carry out local mailing campaigns before doing a house-to-house canvass. Resulting sales were 9.2 per cent higher as compared with the "cold canvass" method.

A manufacturer in the North had a similar experience. He sells a fairly expensive piece of equipment for use in shops and offices. By carrying out a direct mail campaign lasting a month before his salesmen made their first call he increased sales by over 12 per cent.

The important point in this method is that introduction to the product and the salesman has been done; the salesman can get down to the business of obtaining an order on his first call. In many cases the prospect is partly "sold" by the mail campaign. Sometimes, indeed, he is so ready to buy that the salesman has little more to do than to collect the order.

So highly competitive a product as motor car lubricating oil was no easy subject for such development. But so well handled and successful was the scheme that we have outlined the methods which this American concern used in its build-up to a national market

Expanding a Local Product *Into a Nation-Wide Seller*

WHEN Beecham's pills were peddled in a market-place, did the pattering salesman think he had a "national seller"? No! Not until a woman in the crowd bawled a slogan at him: "They re worth a guinea a box." That idea turned a local pill into a national medicine.

Now the goods remained the same, but the marketing method took on a new aspect. That has happened many a time since then. It will happen many a time in the future. Within the limits of a localized market a product with the "plus points" for successful nation-wide sale is found every now and then.

Over in the United States there is another good and up-to-date example of this truth: Hyvis Motor Oil. For several years this product had been produced, bottled and sold in California. That is where it had stopped, not because it had not *national* qualities, but because the right marketing scheme had not been discovered and developed.

To build a national market for "just another quality oil" along orthodox lines would have been costly, and results problematical

too costly to build up a national market for 'just another oil,' so . . . .

Discovered the facts on which a NEW Sales Story was built

Unearthed hidden snags so the new campaign could side-step

Indicated better methods of dealer tie-ups

Provided fresh ways of building customer-goodwill

The market for the sale of motor oil to car owners was in a chaotic condition. Research showed that the trade had segregated all oils into three groups. Roughly, these were: (1) Major oil companies' branded products; (2) Nationally advertised and known independent brands; and (3) Low-priced oils sold in cans through grocery, cut-rate accessory, department, and mail-order retail stores. It was the widespread activity of this section number three that had unsettled the market.

When this was done, then advertising put the campaign over

Similarity of competitive claims were found by investigators to have confused the buying public regardless of price or source of supply. Even trade-association emblems, supposed to establish prestige for certain types of oil, were beginning to suffer because the marks were being displayed on containers of low-priced as well as high-priced products. This was especially so where the association marks were merely used as distinguishing marks of geographic origin. It was further found that the one-quart can had become symbolic of quality in the mind of the consumer, yet oils in all price ranges were sold in quart containers.

Further research indicated that differences in oil were not readily discernible by car drivers. The various claims used by companies, particularly those of lower engine repair bills, while logical, were hardly conclusive enough to be used as the best argument for one brand of oil as against another. The claim did not permit proof by test or comparison by the average driver, even if he believed that various grades would effect differently the wear on his motor. Thus, low grade competitors claimed without fear that their product assured minimum wear.

This being the state of the market, there was obviously need for trade and consumer analyses upon some new angle of approach.

Decided to Tell the User These Facts

General practice was to recommend use of a very light oil when car engines were new and bearings and moving parts tight. After the first thousand miles of running it was general practice to use a heavier oil. However, there was no prescribed rule or system by which the car owner could tell how heavy an oil to use at the end of a thousand miles.

It was also general practice to use oil of an increased viscosity when, because of wear, oil consumption became abnormally high; but again there was no basis for determining when to shift to heavier oils or how much heavier the oil should be.

Because decreased consumption followed the use of heavy oils, producers and salesmen, to prove that their oils were more economical than those used previously, were recommending oils much heavier than were suitable. Result: economy in oil consumption but run-down batteries due to hard starting, increased petrol consumption, excessive repairs due to difficulties of a similar nature.

The first theory evolved was: if wear made advisable the use of heavier oils, then there should be some basis for determining at what mileage oils of increased viscosity should be used and what oils would best suit engines at these mileages.

Research both in the laboratory and

on the road developed definite wear cycles. It then became a matter of adjusting the oils that would perform most economically and efficiently within these cycles. A book entitled *Engineering Data* was produced to show how these wear cycles were established and to answer many questions automatically evolved in the process of the development.

Each Hyvis salesman and distributor was furnished with a copy of this book. Distributors' salesmen were given copies upon request. The book was not a sales tool; it gave scientific facts regarding the company's product, answered technical questions of a type asked by engineers. The American Society for Testing Materials was called upon to furnish the blanks on which the tests were recorded.

This work completed, the next question was to designate oils correct for use in these cycles. The SAE (Society of Automotive Engineers) designations were inadequate because SAE ratings for lubrication oil are taken at a given temperature—in the case of SAE 10, 20, and 30, at 130° F., and 40, 50, and 60, at 220° F.

As shown on a series of charts, two oils produced from different crudes can be identical at 130° but vary greatly at either extreme of cold or heat encountered in motor-car operation. For example, an SAE 20 made from coastal crude (California) and an SAE 20 manufactured from Pennsylvania crude will have identical fluidity at 130° F. But at zero SAE 20 from Pennsylvania crude on a Saybolt Chart will register about 18,000 seconds, whereas SAE coastal will register about 80,000 seconds.

Since SAE designations were obviously not satisfactory, Hyvis was free to adopt any designations that suited its need. Fortunately, wear cycles determined by engineering research had been fixed at 1,000 miles, 10,000 miles, and 30,000 miles. This meant that they could be divided on the basis of speedometer readings up to and including 999 miles as Cycle No. 1; from 1,000 to 9,999 miles as Cycle No. 2; from 10,000 to 30,000 miles as Cycle No. 3; and over 30,000 miles as Cycle No. 4.

Users Can Understand These Speedometer Readings

To simplify the entire formula it was decided to designate oil numbers to conform with speedometer readings. Something the car user could really understand. Hence, for mileage up to 999 miles, drivers should use Hyvis 3; from 1,000 to 9,999 miles, Hyvis 4; from 10,000 to 30,000 miles, Hyvis 5; and above 30,000 Hyvis 6. With this simple standard established it was necessary to provide a system or method upon which to sell oil that was individually Hyvis and logical enough to be understood and believed by both trade and consumer.

The next problem was how to present the plan to the trade. It was imperative to give the plan the "bigness" and importance to which it was entitled.

For one company to attempt to revolutionize oil-buying habits was daring; the only chance of success seemed therefore to make it a topic of general conversation throughout the trade. So the initial announcement was made with *five-page* inserts in leading trade magazines.

The 'Reason-Why' explanation was the main sales argument. It proved effective.

After long technical research a special booklet embodying the findings was produced for the use of oil distributors and the general motorist. The booklet explained what grade of oil to use and when to use it. Motorists had never before had the facts put before them in this simple 'reason why' way. Distributors' salesmen handed copies to motorists.

Two coupons were used, a "regular" coupon and a "rush" coupon. The thought here was to develop the idea of a rush for information on this new system and that, to get an immediate reply, the rush coupon should be used. Incidentally, this means of forcing replies could have been less urgent because the announcement turned out to be so effective. But this good result, while naturally hoped for, was not one that could be taken for granted beforehand. That would have been too big a gamble.

First consumer advertising appeared in the *Saturday Evening Post* and *Time*. Here was told a frank, honest story, using enough words to answer questions from people who really wanted to know facts. The important thing was to get consumers to read and talk about the story.

In every group there is some one individual who is recognized as knowing more about cars than others. The company wanted to reach this man and have him talk about the Hyvis programme. It was not hoped that in the first few advertisements the company could get the casual buyer to appreciate the story or act upon it.

This Plan Appealed as a Common-Sense Idea

This reasoning proved sound, but it did not take long to get key motorists as well as key dealers to tell their friends that the new Hyvis Mileage-Metered System "sounded sensible" to them. In fact, within sixty days other oil companies began to take cognizance of the story in their advertising, claiming that drivers should increase the viscosity of oil as engines wear. They also claimed that SAE 20, 30 and 40 were sufficient. Here was a defensive move, which strategically put Hyvis on a pioneering basis.

Later advertising went more definitely to illustrations of the speedometer in order to associate closely and logically the speedometer readings and oil buying.

For a simplified presentation by the trade a simple formula was developed:

If wear is related to mileage and mileage is shown by the speedometer, then wear must be indicated by the speedometer; and if wear is indicated by the speedometer and the proper oil is dependent upon the degree of wear, then the proper oil must be shown by the speedometer.

From this vital basis onward the advertising scheme was simply a development of the idea in various ways.

To emphasize that *fit* was important in a motor oil, illustrations of agony caused by misfit shoes or misfit collars were used in the advertising.

After the system was sufficiently established, a new type of advertising campaign was decided upon to show how to control the purchase of oil.

This New Idea in Copy Proved Popular

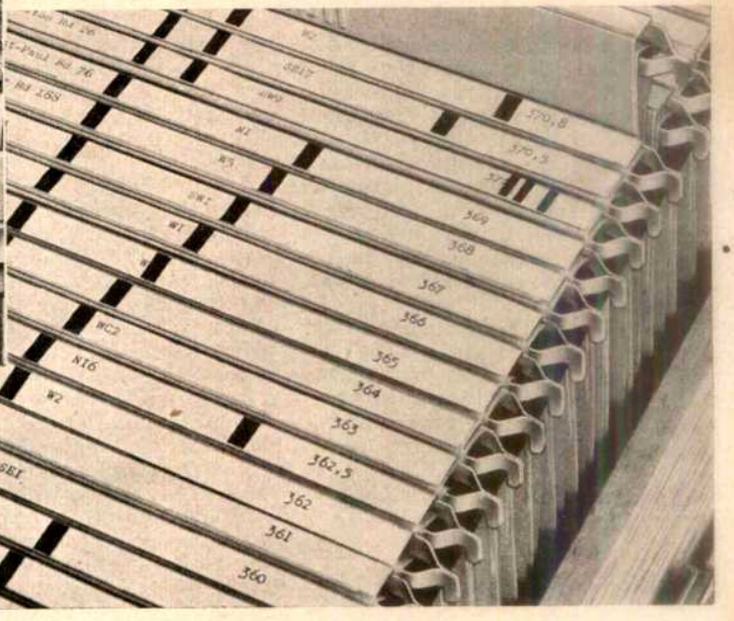
For this was developed the unique "see through" advertisement. In this series, half of the conversation was put in the "balloon" of the speaker, while another balloon was left blank. A suggestion was made that what the second person should say would be revealed by holding the advertisement to the light. This simple campaign created widespread comment and produced results. In the illustration the attendant (the second person) was saying: "Just count the number of figures in your total mileage and use Hyvis of that number. It's the way to save petrol!"

As the programme became accepted, Hyvis automatically became recognized as a lubrication authority. The company developed a sales organization to co-operate with the dealer, not only in sale of Hyvis lubricants but also

(*Continued on page 27*)

The SHANNOGRAPH

Full vision FLAT-TOP FILING



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Different from any Filing you have ever seen

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SHANNOGRAPH ADVANTAGES :

Flat Top—Fully Visible
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Fixed Signalling
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Movable Signalling

Write for full details-today

THE Shannon LIMITED

IMPERIAL HOUSE, 15, 17, 19, KINGSWAY, LONDON, W.C.2

BIRMINGHAM - BRISTOL - LIVERPOOL - MANCHESTER - NEWCASTLE-ON-TYNE - GLASGOW (Agents)

5648

Light-Weight Diesels Can Reduce Your Haulage Costs

Road Test No. 10

The COMMER-PERKINS 5-TONNER

By RICHARD TWELVETREES, A.M.I.Mech.E.

IF you talk to most road transport operators about diesel vehicles they will probably agree as to the economies obtainable when heavy loads are hauled over big mileages annually, but will reject any suggestion as to using this form of power unit in light-weight vehicles operating over relatively small mileages.

Recent developments, however, have put an entirely different complexion on the all-important matter of light-weight truck fuel economy, for to-day the diesel engine is becoming a very important factor in the operation of 50 cwt. 30 m.p.h. vehicles.

So as to be able to put the latest facts before BUSINESS readers I called recently on Perkins Diesels (F. Perkins, Ltd.), Peterborough, to investigate personally the commercial possibilities of light-weight diesels.

Special Plan for Reducing Maintenance Costs

To solve the problem of the extra initial cost of the diesel engine this firm has introduced what is termed the Perkins Perpetuity Plan, under which an engine is replaced by another, equal to new in every respect, when an overhaul becomes due, regardless of the mileage it has run.

Under the scheme three replacement engines are available for each new one supplied, the first engine with various changes of ownership taking with it the right for replacement.

Assuming the normal mileage from one engine to be between 80,000 and 100,000, we thus have four times that amount upon which to calculate the cost of depreciation. At the same time the operator is relieved from all engine maintenance costs, because, as soon as his engine needs overhaul it can be replaced at a cost of £62 10s.

Look At These Running Costs

Next, with reference to running costs, the diesel shows up to considerable advantage even if the mileage does not exceed the low figure of 12,000 annually.

Now if we buy petrol at 1s. 3½d. per gallon and put the consumption at 10-11 m.p.g., we have a running cost for a petrol-engined vehicle at 1.55d. per mile.

The diesel, on the other hand, with fuel at 1s. 2½d. per gallon and a consumption approximately twice that of a petrol engine—which is a fairly reasonable expectation under normal working conditions—has a running cost of 0.725d. per mile, a saving of 0.825d. per mile.

On the following mileages, and calculated on the above figure of 0.825d. per mile, the diesel engine offers the profits shown below:

12,000 miles ...	... £42 per annum
20,000 miles ...	... £69 per annum
40,000 miles ...	... £138 per annum
50,000 miles ...	... £172 per annum
60,000 miles ...	... £206 per annum

As against the above profits the operator has to consider the extra depreciation consequent upon the higher initial cost of the diesel engine, which may be taken at about £250 with a new vehicle.

In the case of an operator running 20,000 miles per annum, the engine, which may be changed from truck to truck, will maintain its value and useful life for a period of 17½ years by virtue of the Perpetuity Plan. In other words the depreciation cost per annum, with interest, is £250 divided by 17½, or only about £18 per year, as against a saving of £69.

For annual mileages of 50,000 the depreciation will be worked out over seven years. The extra depreciation cost, therefore, will be one-seventh of £250, *i.e.*, £42 per year, as against a total saving of £172 per year.

From the above-mentioned profits, compared with the extra depreciation cost, it is obvious that the light-weight diesel becomes a proposition that few can afford to neglect.

ACCESSIBILITY

. . . is a great feature of this Diesel Unit

There Are These Mechanical Advantages

From a technical viewpoint the latest Perkins P.6 six-cylinder engine is of great interest, but for the present our remarks must be confined to its performance. For that purpose I accepted the manufacturers' invitation to try a Commer 5-ton lorry over a very exacting route under full load conditions.

It is an admitted fact that, although operating economy is an essential feature of modern trucks, the quality of performance from many points of view is of no less importance. This applies particularly in the case of diesel-engined vehicles to which objections have been sometimes raised on the score of noise, roughness in operation, the emission of smelly fumes and general discomfort for the driver.

Much of the prejudice against the diesel has arisen because its maximum pressures in the combustion chamber are much greater than those of the petrol engine. The same reason has accounted for increases in the weight and dimensions of certain parts to resist the correspondingly higher stresses thus produced. Hitherto the extra weight alone has precluded the use of the type in vehicles of the 50-cwt. unladen weight class.

Thanks, however, to certain features of design and construction the combustion stresses in the Perkins engine are only slightly greater than those of equivalent petrol-driven units, the small additional increases in weight and size thus entailed being saved in other directions. Actually this remarkable power unit only weighs 6 lb. per horsepower developed.

In order to make sure that the weights were correct I had the truck driven on to a weighbridge, which

(*Continued on page 42*)

On Active Service for 35 years!

SUPPLIED 1902—STILL GIVING COMPLETE SATISFACTION

Messrs. Joseph Lyons & Co., Ltd., write :—

"We are glad to say—that the *ledgers installed as long ago as 1902* are still giving us complete satisfaction."

The italics are ours. The claim is NOT ours. It is made by a firm who, following their original purchase, have bought over 700 of our Binders.

How long have you had your Binders ?

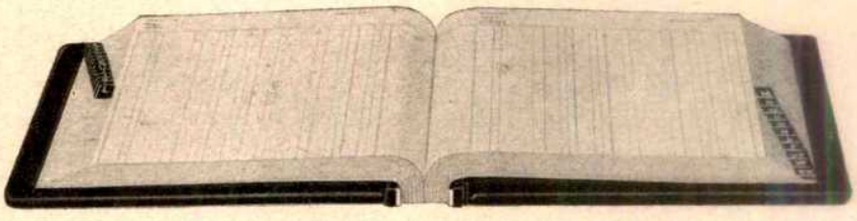
Are they giving complete satisfaction ?

Will they continue to do so after 35 years ?

COPE-CHAT LOOSE LEAF BINDERS and Requisites are made in every type—Thong, Post, Section Post, Spring, etc., for pen or machine posting, and are made in a size which will suit your forms. Nothing but *proved* materials and highly skilled craftsmanship could produce these attractive Binders, which are finished in many coverings and edged with "Hardite"—an almost indestructible material of pleasing touch and shade. We *could* win your confidence by illustrating tests—such as that of a Gloucester County Council steam roller rolling and re-rolling over a binder taken from stock—but you do not buy a binder to be run over. You buy it to give lasting service under your own working conditions. The best test you can give a Cope-Chat Binder is to use one.

COPE-CHAT Quality costs no more. **WHY NOT** SEND US YOUR ENQUIRIES *NOW* ?

Note the flat opening. No binder of any make will give you better writing facilities. It is a pleasure to use.



FULL DETAILS GLADLY BY RETURN POST

THE COPELAND-CHATTERSON CO., LTD.

EXCHANGE HOUSE, OLD CHANGE, LONDON, E.C.4

BRANCHES THROUGHOUT THE PROVINCES

We want to Buy from the Best Suppliers

This Plan FINDS — and KEEPS Them

By

The OFFICE MANAGER

of a Well Known Manufacturing Concern

ONE of the primary functions of any industrial and most commercial concerns is *purchasing*. Before a commodity, whether specialized or common, can be industrially treated, that is, before manufacturing process can begin, raw materials and consumable stores must be bought.

Purchasing, then, is, for most concerns, a basic operation in the scheme of things and one which, at least equally with other operations, has a bearing upon the ultimate general success of the individual concern.

If the buying is not right it is hardly likely that the selling can be right, and as a consequence it is essential that purchasing, whether of raw materials, maintenance stores, or plant and tools, must be put on an efficient basis.

In the concern with which I am associated we used to leave the buying to different executives who were supposed generally—or at least they claimed—to have "connections," and this resulted in an unorganized and spasmodic placing of orders that operated on anything but a scientific basis.

Outside Consultants Devised This Reorganization

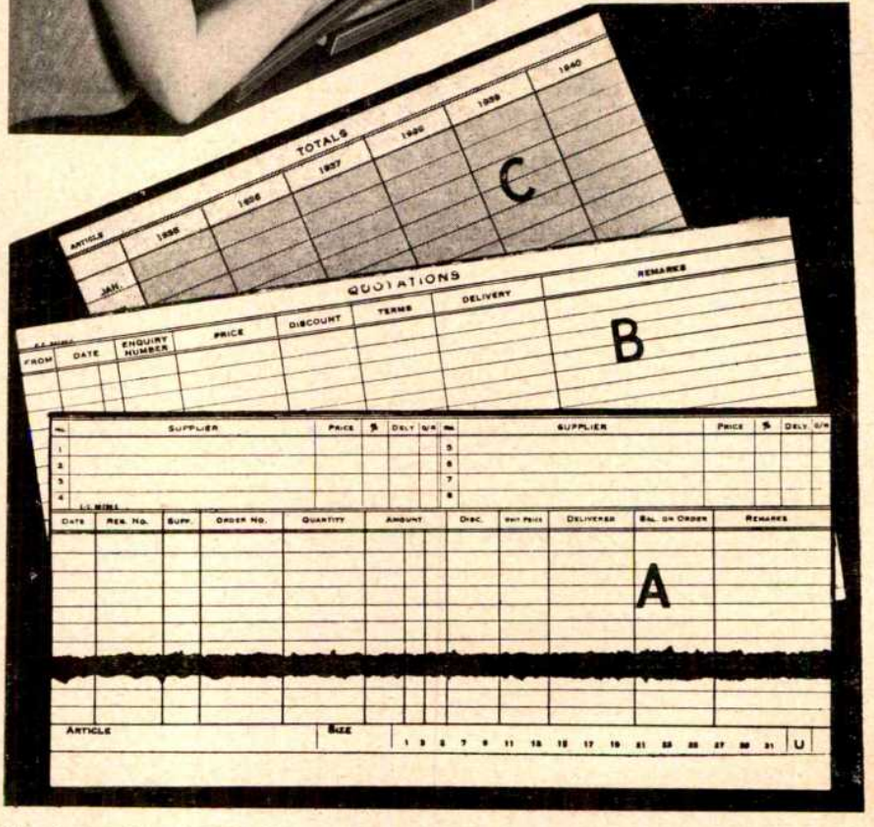
We went to a lot of trouble to get optimum efficiency in the factory, but, still failing to obtain the results we desired, we further investigated the matter and found that, instead of starting at the beginning, we had started halfway through; in other words, we should have started with the *buying*, as this is really our first operation in the process of manufacture.

There is a growing practice among progressive concerns of enlisting the services of outside consultants when reorganization is being considered. With all the factors involved in our problem we therefore decided to follow this practice.

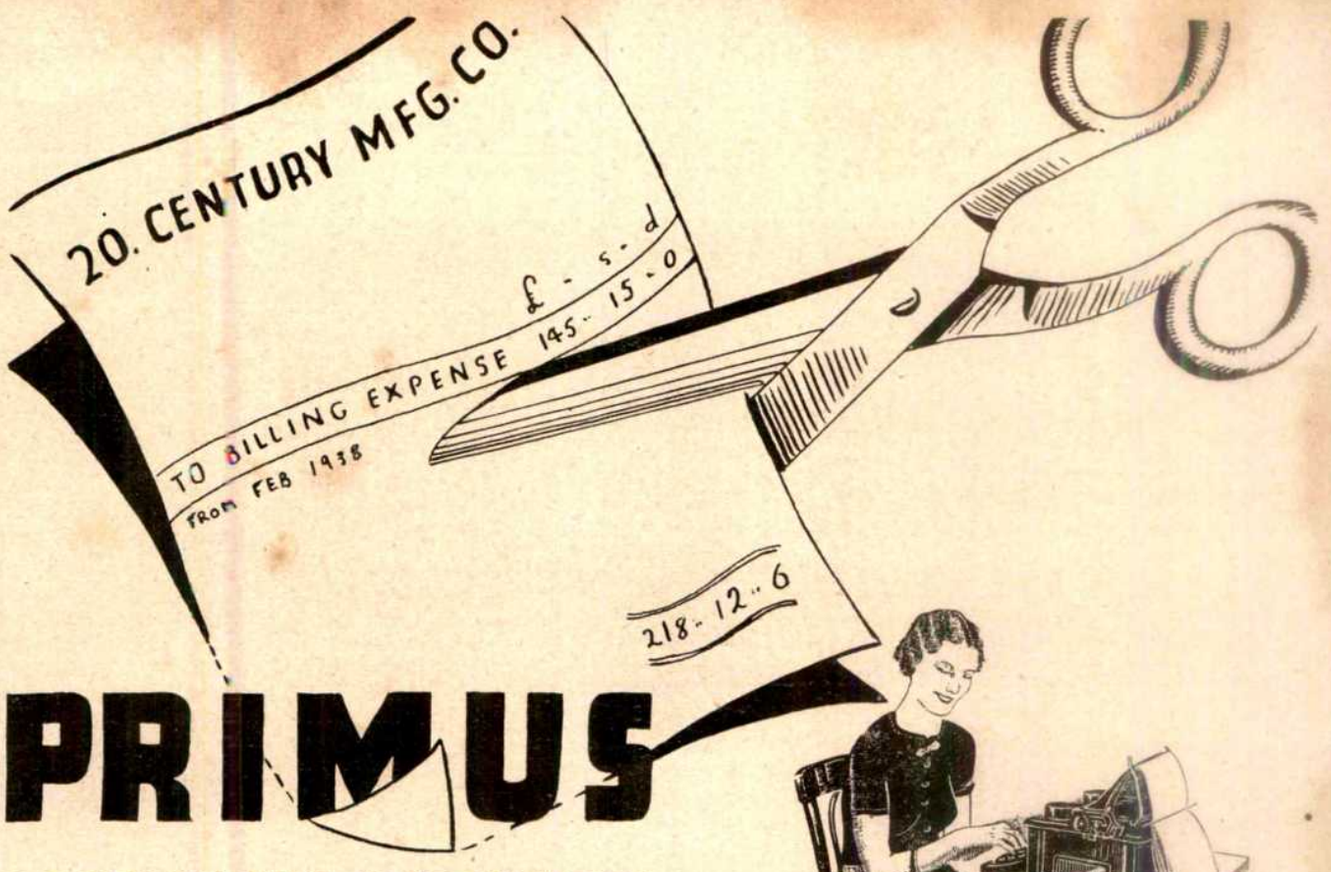
We knew our own executive people certainly had their own experience to go on, but this was likely to be coloured, unconsciously perhaps, by their own personal wishes and feelings.

Their experience, in one or two other firms at most, even if unbiased, could

The essence of this plan is that it automatically and continuously reveals suppliers in their order of merit in actual *performance* as against *promises*, and so guides the buying



The buyer has before him: the Records of Purchases (A); the Records of Consumption analysed by the month (C) and Records of Quotations (B), so from these facts, combined with further statistical data shown on page 20, he has a clear and up-to-the-minute analysis of the whole purchasing field. According to whether his primary consideration of the moment must be discount, delivery, price, etc., or any combination of these factors, the buyer can unerringly select the most appropriate supplier



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Consignment Notes	Repair Orders
Requisitions	Cash Sales
etc.	etc.

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not equal the experience of specialists whose recommendations would not be influenced by departmental jealousies, favour or other similar considerations, so we called in a firm of organization experts, who fixed us up with a method which has replaced guesswork and the haphazard placing of orders with carefully arranged purchasing on a properly controlled basis.

The first and most important decision was to adopt the Visible Card idea, so we installed Copedex cabinets, as illustrated. These cabinets are arranged so that executive reference can be made without interfering with the clerical operation. The trays of cards are quickly and easily removed whenever necessary, and each of the triple purpose records is housed in a pocket by itself, the basis of the scheme being one set of records per item.

The record cards are shown in the accompanying illustration, and the card marked "A" is the actual record of purchases.

To guide us in the buying we also have sheet No. 3, which is a record of quotations and offers received, while card "C" is a record of consumption, analysed by month, for a period of years.

We purposely took out consumption figures for a year or two back to provide us with working data.

Now, instead of our orders being placed on the old basis of guessing, or by favour, a young lady in charge of the records can, with consumption figures and current quotations in front of her, make out orders based on our actual needs at the moment, and this in effect means always buying in the best market.

This seems a big statement, but the following will explain just how we do this.

It will be seen that there are three examples of card headings. On example No. 1 you will see that there is provision made for up to eight different suppliers for the same article. The scheme can be made to embrace more or less, but it is recommended that not less than four be provided for, as it would seem unwise for any firm to purchase all their commodities or any of their commodities from any one or two firms continuously without some very special reason.

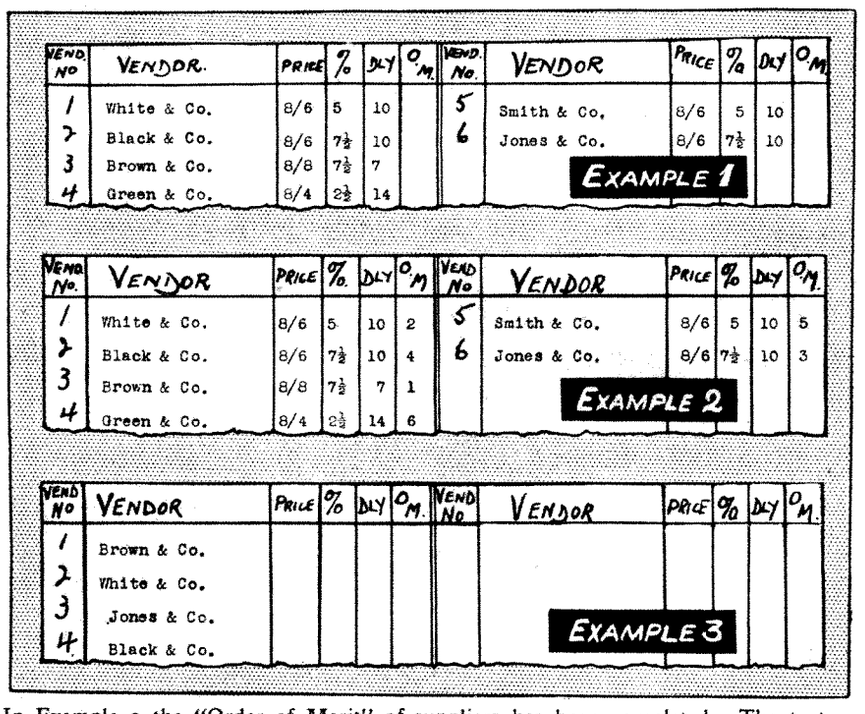
When the element of competitive buying is introduced it is usually found to be of benefit to the buyer either in price, discount, delivery or other service.

On the ruling shown six vendors are listed and are given a vendor's number, which is in the first column. This enables a saving of space to be effected on the purchase record inasmuch as only the vendor's number needs to be entered against goods purchased. The vendor's name next appears, followed by the price of the article; the discount given is shown next; then comes the number of days required for renewal of supplies from each of the suppliers or vendors indicated.

It will be generally recognized that there are times when the urgent need of goods overshadows both the question of price and, certainly, very frequently the question of discount. Conversely, it frequently occurs that purchases can be made having regard to price and/or discount, delivery not being the important matter.

No matter what the condition or circumstances at moment of ordering or buying, details arranged in this manner will be of value.

It will be noticed that the last column of each section is headed with the letters O.M. This denotes "order of merit" and is to be used as follows: After a card has been completely used up there will have been some experience gained with the various suppliers whose names appear as vendors, and in accordance with quality, price, discount, delivery and other service actually *performed*—as against *promised*—so they will be awarded merit in order as they deserve it.



In Example 2 the "Order of Merit" of suppliers has been completed. The text on this page explains why Brown & Co. (suppliers No. 3) is the best, and in what respects he is best. Suppliers who fail to come up to the mark are soon 'spotted' by this system and can be eliminated

How The "Order of Merit" Operates

Example No. 2 will show where the order of merit column has been completed, and a study of this will show just what it is intended to convey—namely, that Brown & Co., Vendors No. 3, have given the best service. The quality of their goods is best; their delivery as promised can be relied upon, and in short they are deserving of first consideration amongst those of whom experience has been gained.

White & Co., otherwise Vendor No. 1, takes second place in order of merit. It will be seen that White's price is less than Brown's; the discount also is at a smaller rate, but their service, or maybe the quality, has not been so good as Brown's, and there may have been some other reason why White should not take first place. And so we could go on right through the whole of these suppliers or vendors and award them a place in order of merit.

As before stated this procedure can only be carried out when the purchase card has been completed and some experience of the various vendors and their goods is gained.

The card being completed, a new card must be prepared, and this is just where the process of elimination of doubtful suppliers comes in.

Experience with the previous card has already indicated that Green & Co., Smith & Co.—that is Vendors Nos. 4 and 5—are last in the order of merit; therefore when a new card is prepared these two poor-class suppliers are eliminated, and this leaves space for a further two suppliers. The market can then be further explored for other suppliers of this particular item.

It will be seen that over the life of a few cards extremely valuable work will have been done in building up the very best sources of supply, simply because the doubtful suppliers have been consistently eliminated. Whether it be a question of price, discount, delivery or other service, any Stores or Purchasing Department making use of this idea will be purchasing in the best market continually, *always having regard to the need of the moment.*

The system equipment described in this article is the product of The Copeland-Chatterson Co., Ltd. —ED.

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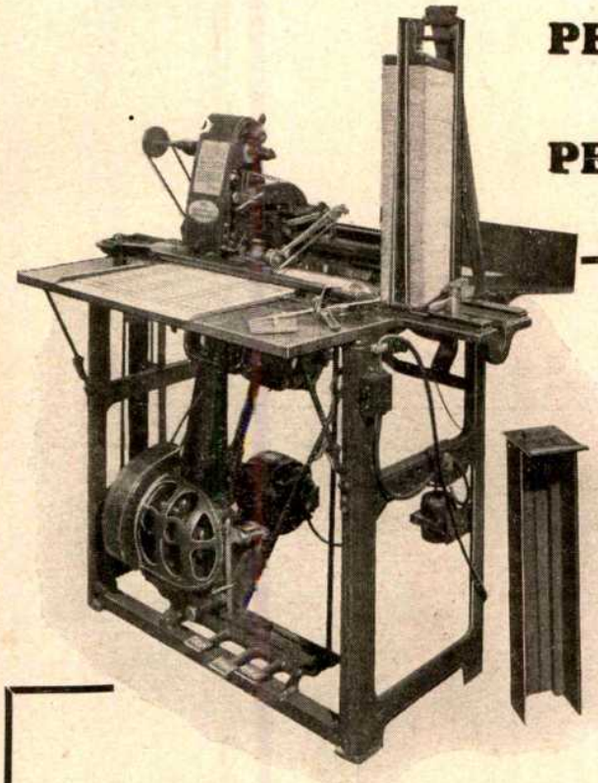

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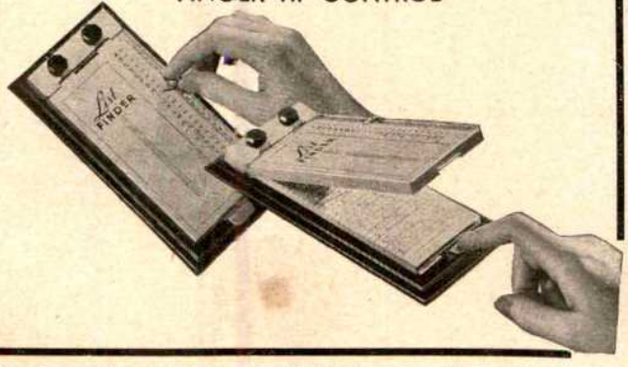

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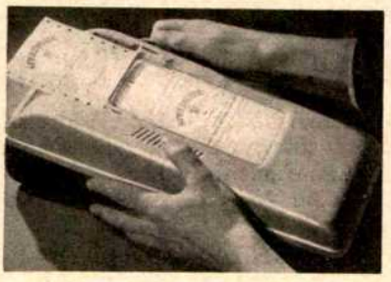

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75 POINTS that Make for *Successful Management*

Gathered during interviews with the top executives of more than 50 progressive firms in many different industries

(*Continued from last month's issue, page* 12)

29. Consistently pay at least FAIR wages.

o

30. Do not jump a man too quickly. It is apt to go to his head, especially if he is young, and if it places him out of line with his co-workers there is apt to be jealousy and all sorts of trouble.

o

31. If you operate your stenographers as a department, be careful that the woman in charge is not a tyrant—too often she is.

o

32. If you can afford it, have stenographers definitely assigned. It costs more, but cuts out a lot of friction and heartburnings. In addition, it builds up responsibility of production and improves the work of stenographers.

o

33. Earn for your organization, by a meticulous care for details, the reputation that you do things well. This can only be done by seeing that each step in your relations with others is a complete step.

o

34. Put your foot down on the fellow who "looks over his shoulder"—who thinks the other fellow's job needs correcting. Let there be no butting into different phases of the business outside of immediate responsibilities. This does not bar constructive suggestion submitted in the proper spirit.

o

35. Organize everybody's work so that each knows exactly what his or her job is in relation to the work, not only of the immediate superior, but of the organization as a whole.

o

36. Base reward for good work mainly on how well the individual has borne and developed his own responsibilities.

o

37. Fix definite responsibilities to each head of a department—to each employee—to each job.

o

38. Keep your eye on the "buck passer". Fix responsibilities so that, never mind how the mistake or the poor work comes about, it is chargeable to the man whose responsibility it was.

39. Make the carrying out of individual responsibilities occupy the full day's work so that there is little time for the worker minding other people's business.

o

40. Let this feeling of responsibility extend from one department, as a whole, in its relation to another department, as a whole. Let each department of the business take care of its own work and not try to run another department as well.

o

41. For organization purposes there must be titles. In your relations with your employees, let it stop at that.

o

42. Avoid an attitude of domination. If you have got to dominate, do it by intellect, not by brute force.

o

43. Settle disputes and snags quietly; do not let the whole firm know that some member is on the carpet.

o

44. Do not "preach". If your people are not loyal to the organization and do not work for the best interests of the house, your suggesting that they do will never make them.

o

45. Keeping up the organization "pep" can be accomplished in other ways than by eternally explaining how good you individually are and how easily you have accomplished things. Remember, it is the other fellow who has to do the job and that if he were as good as you, he would probably be occupying your place.

o

46. Win the sincere feeling of regard and affection of all your people by square dealing and straight thinking.

o

47. Radiate the thought that your people have ability; it is a reflection on your choice if they have not got it.

o

48. Give praise where it is due, openly, if necessary; but be careful lest continued commendation has a weakening effect on the person you would help.

(*Continued on page* 29)

These notes will be continued in succeeding issues. It is suggested that each instalment be clipped out and filed until the whole 75 Points have been accumulated. The complete collection will be found to crystallize the main points in the whole range of management as practised by successful firms.—ED.

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★ To "Tell the World" that you are a "Sectric" Timer by installing Smith "Sectric" Clocks throughout your organisation is to advertise the importance you attach to punctuality and efficiency. It shows that you are content only with a time-keeping service which is exactly true to Greenwich and which does not take up unnecessary labour and supervision by involving winding or regulating. Smith "Sectric" Clocks are a characteristic feature of the truly up-to-date factory, office, or store, no matter how small or large.

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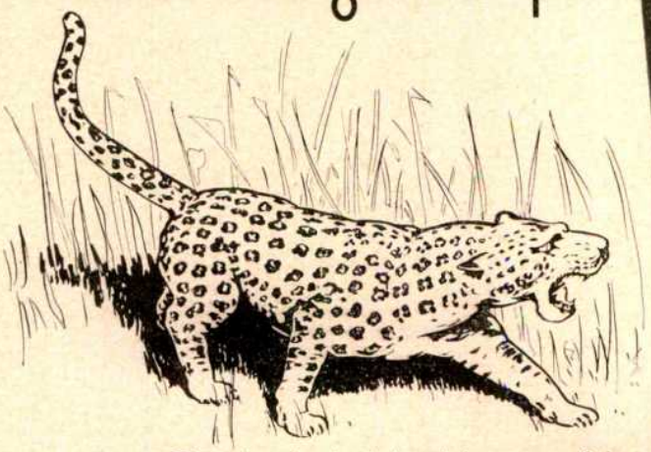
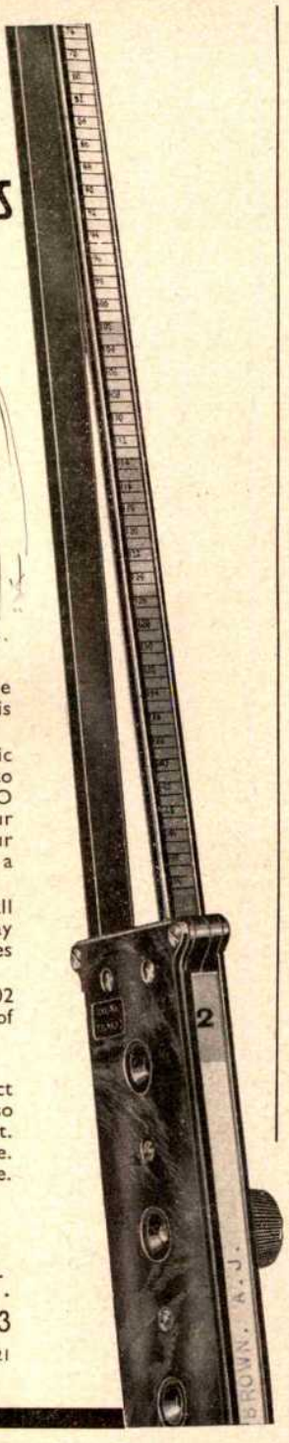
The Leopard never changes his spots





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Getting Things Done

(*Continued from page* 10)

driver who speeds up this turnover is just a fool to himself and a danger to the organization.

3. *Fear Often Wears Off*

When the driving executive does not discharge a large number of men or experience a good many resignations, his methods again defeat his purpose because the effects of his tactics wear off. The men become used to his threats. They find that he is bluffing and that nothing will happen if they disregard his instructions.

Accordingly, the driving turns into ineffectiveness and little or nothing is accomplished.

Consistently followed, however, driving invariably creates resentment against both the executive and the job. Resentment means a lower appreciation of the job, and thus invites still further disregard for instructions.

The Place For Driving

Thus, there is ample logic to back up experience which shows that driving as a general policy is unprofitable and unwise. No driver has ever been successful at getting instructions followed consistently over a period of time in business.

Some drivers are apparently successful in business, but *not* because they drive.

Their success is the result of having a superior product or superior manufacturing methods or some other advantage over competitors.

This does not mean, however, that there never is a place for driving or for some of its important elements, for there definitely are times when driving, or its equivalent, is absolutely necessary.

Every executive has occasions when he must get a new emergency plan accomplished at once. There is no time to explain the why and the wherefore in detail to a large number of subordinates. The plan calls for unusual effort and plenty of overtime. Everyone must do his allotted part, whatever he happens to think about it.

The executive who has consistently driven his subordinates in their ordinary work will slip up badly when such an emergency arises. He will get no results because his methods have become ineffective.

The executive, however, who has followed an intelligently constructive policy of *leading* is in a position to request—*and to get*—a blind and wholehearted acceptance of his instructions.

The Essentials Of Leading

Since, then, leading is the more effective and permanent method of getting things done, a study of the technique of leading is necessary.

Leading is a complex art embodying

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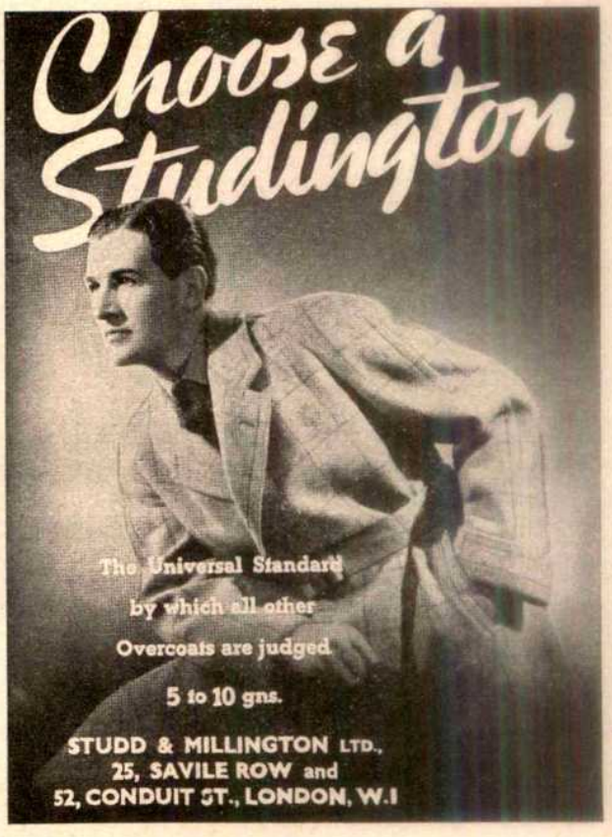

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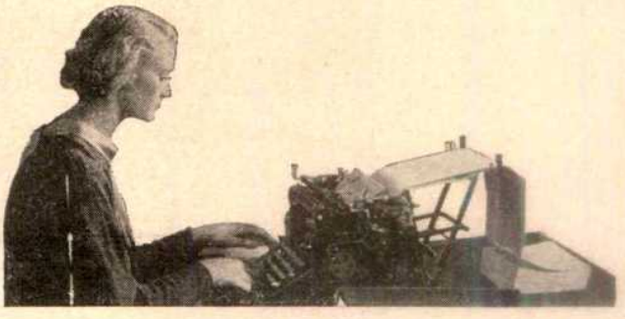

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principles and practices that should be closely adhered to. It is not a technique that can be installed and made effective overnight. To establish the right sort of background may take months, depending on the nature of the past relationship between the executive and his subordinates.

The technique of leading divides itself fairly naturally under these five headings:

(1) Selling yourself to subordinates.
(2) Presenting instructions skilfully.
(3) Following-up effectively.
(4) Getting help with instructions.
(5) Improving subordinates' attitudes.

In his book Mr. Wilson goes fully into these five divisions. We have not room here, however, to do more than touch on one of them, so we select number three as being probably the most widespread problem.

Even when every effort has been made to explain and "sell" an instruction, and subordinates apparently understand and accept it, two things may happen:

(1) The instruction may be partly or wholly disregarded in spite of the agreement which has been obtained.
(2) It may be carried out improperly by subordinates.

To guard against either possibility, follow-up is definitely needed. While it is true that no one idea can have much effect on profits in the long run, it is beyond question that the more instructions an executive permits to be disregarded, the more trouble he will have with future instructions. The converse, also, is true.

Close, consistent follow-up builds good habits in subordinates. It is a sure way to improve their performances. That is why many successful executives consider a reputation for follow-up one of the best assets a leader can have.

A good follow-up involves three important steps: (1) Checking performance closely; (2) Handling difficult situations skilfully; (3) Criticizing subordinates effectively.

How To Check Performance

Checking-up is a fairly simple pro-

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ELECTRICALLY OPERATED SYSTEMS FOR ALL TYPES OF EMPLOYEES
TIME-RECORDING, JOB-COSTING, SHIFT WORKING, ETC
NATIONAL TIME RECORDER Co. Ltd.
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VENUS PENCILS are incomparably smooth and long lasting, their standard of quality never varies.
MADE IN ENGLAND
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If you will state the nature of your work and choose two different grades which you think most likely to suit, we shall be very glad to send you samples to try.
VENUS PENCIL Co. Ltd., LONDON, E.5

From 6b softest, to 9h, hardest

cedure. In general, there are only three ways to do it:

(1) Look over records or reports which will give the necessary information.

(2) Go out and watch the man on the job.

(3) Install, temporarily, new reports that will provide the information.

No one of these methods alone is sufficient. A combination is generally required.

New reports are always looked upon with disfavour. And rightly so, because to the detail work of the job. But a report that really aids follow-up and actually helps to get the plan or policy carried through is desirable and profitable—provided it is discontinued directly its purpose is accomplished.

Avoid the Mistake of Too Long Intervals

Many executives who have the best intentions regarding follow-up accomplish little because they disregard one fundamental principle: they permit too long intervals to elapse between their efforts to check up.

Experience proves, for instance, that it is far more effective to follow-up a thing twice a month for three months than once a month for six months.

The reason? Each important new instruction usually requires a change of habit or the adoption of a new habit by the subordinate. *Frequent* reminders are generally needed to effect this change.

Follow-up takes time—valuable time—on the part of the executive. Yet a short test of whether it is needed will show very quickly, in ninety-nine per cent of cases, that the time is well spent.

It can be safely said that only a very few top executives in business are so skilful and persuasive in issuing instructions that they get real results without a properly systematized follow-up

In short, follow-up is your insurance against ineffective instructions and is as necessary a step as explaining and selling instructions for every type of executive who has control of men.

Expanding from Local to a National Market

(*Continued from page* 14)

in the installation and management of modern lubrication departments.

With the establishment of key dealers throughout the United States, the present campaign capitalizes the prestige of the system and the dealer. Advertisements illustrate the proper way to identify a correct place to buy lubrication.

At the end of 1935 Hyvis Oils had complete distribution through several

BUSINESS MEN *buy their representatives cars from* **CAR MART**

Because . . .

they ARE business men—who find many advantages in buying one, two or a fleet of Cars from Car Mart. A valuable consideration is the Car Mart guaranteed repurchase system, and also their excellent after sales' service, which can be obtained in any part of of the country.
We can supply lists of business houses who find car buying from CAR MART a profitable investment.
If car overheads are important to you, please write or 'phone for particulars of our unique service.

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Car Mart Ltd

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Euston 1212.

STANDARD CARS,
37, DAVIES STREET, LONDON, W.1.
Mayfair 5011.

146-150, PARK LANE, LONDON, W.1.
(Corner of Piccadilly)
Grosvenor 3434.

STANHOPE HOUSE,
320, EUSTON ROAD, N.W.1
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For modern economical office furnishing it will pay you to send for the WATLANE Catalogue.

These are two of our products: a desk for executives fitted with 4 drawers for keeping vital information always at hand, and a compact typist's table, the construction of which facilitates typist's work.

WATLANE CABINET CO
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★

PUBLIC SPEAKING is the most natural way of reaching this goal. It is a most valuable item in the personal equipment of the ambitious man or woman.

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Dr. Fern, known all over the world for his famous talks, wrote "The Science of Public Speaking" to help you help yourself to realise your greatest ambition.

Post the coupon below TO-DAY.

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LONDON, W.C.1

Please send me, without obligation, particulars of your Course on "THE SCIENCE OF PUBLIC SPEAKING," which I am to have at a special price.

NAME .....

ADDRESS .....

.....

B

hundred of the best car wholesalers, and, through 15,000 retailers, had attained a gallonage ranking with that of principal competitors, and had secured for Mileage-Metered lubricants the approval of leading car engineers and manufacturers throughout the country.

Other material was made available to dealers, including talking pictures, direct-mail campaigns, cards for use in contacting new car owners, as seasonal reminders, etc. Check cards, free parking courtesy services, night service, and other dealer helps were prepared. Price cards, dip-rod tags, speedometer stickers, match books, caps for service attendants, and metal coins as pocket pieces (which explained the Mileage-Metered System of matching oil to motor wear) were a few of the items used. Lubrication charts, containers identified by well-chosen package designs, dealer franchise cards, and so on, were part of the scheme.

To educate dealers, lubrication schools were held at centres convenient to them. Technical handbooks were produced, and lubrication methods and records explained to help the dealer systematize his work files. Record cards and file boxes were available.

For ordering the advertising and sales material, regular triplicate forms were employed; the plan was made complete with regular visits of the sales staff.

As you can see, the plan did not depend entirely upon advertising or direct mail for effectiveness. It used the technique of research and planning to build a *NEW* story and to bring old ideas up to date.

Extracted from *Fundamentals of Sales Management*, by J. Russell Doubman (Pitman, 12s. 6d.).

Birmingham's Value to the Business Man

Get This Free Booklet

EVERY manufacturer in this country is likely to have some interest in the vast industrial area of Birmingham, and any publication which gives vital facts and information about this centre is, therefore, worth having.

A booklet dealing with Birmingham's industries has just been published by the City of Birmingham Information Bureau. It provides an interesting pictorial record of the city's diverse industries and is a booklet which might well find a place in a company's library. It even has value when the directors discuss sites for a new factory, for here, in picture form, are found many reasons why this part of the Midlands is a home for an expanding firm.

In Birmingham, less than 200 years ago, principles of modern industrial production were first established. The inherited skill of master craftsmen was allied to the new power of steam.

To-day this centre is the home of 1,500 trades, ranging in type from heavy engineering to the delicacy of the jeweller's art. A handbook to

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•

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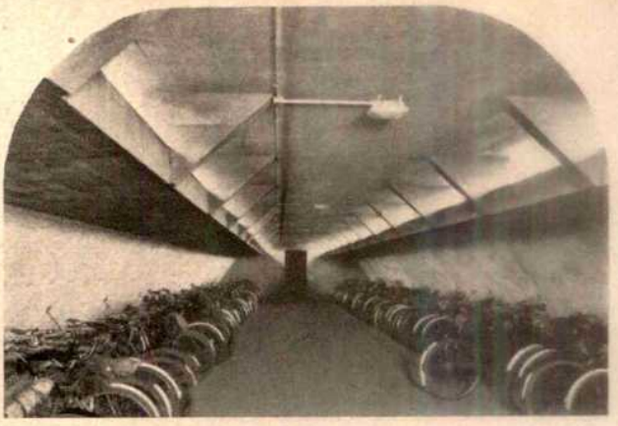
Service Department
BUSINESS
Whitefriars House, Tallis Street E.C.4

illustrate their variety is not easy to compile. The end has been achieved by photography, following, as the booklet observes, the example of the cinema. Within its twenty-eight pages over 250 illustrations have been compressed.

Beginning with the hammer, on to drop forgings for railway bumpers, from thence to wheels for every conceivable purpose, the booklet leads to omnibuses, rolling stock, motor-cars, cycles, and the thousand accessories required for the modern vehicle. Next electricity and the countless associated products have attention, followed by the myriad uses to which metal is put. Confectionery, toys, guns, synthetic resin, silverware, jewellery, rubber and its scores of industrial uses, tyres, upholstery and so on are dealt with. The craftsman and the machine, working side by side, are shown on a double page to illustrate Birmingham's dependence upon both.

The story continues with pins and pen-nibs, hooks and eyes, tin-tacks, screws, and a hundred other industries and their products.

Copies of the booklet may be obtained, free of charge, from the Bureau at the Council House, Birmingham, 1.



This cycle storage shed of a Midlands manufacturer has been turned into a first-class air-raid shelter by means of reinforcing the structure with concrete. Strengthening of roof and walls of buildings of this type is an inexpensive, straightforward and satisfactory job to do in reinforced concrete

Have you any buildings that could be adapted in this way? They can be part of your main factory premises or individual structures in the yard or near-by areas

75 Points of Management

(*Continued from page 22*)

49. Remember that while an efficient force thrives on hard work, it is just as easy to run a willing brain to death as it is to run a willing horse to death.

o

50. When a man is stale and you know it, do not be too hidebound to give him time off to get on his feet, even though he has had his annual holiday.

o

51. Never call down a man in public. Never nag. Fire him if you think he should go, or have him fired; but it is just as easy to do this decently as to do it brutally.

o

52. Wherever possible, and to the extent possible, let the individual work out his answer. Do not think you have the sole and only way of accomplishment and it is your way or none.

o

53. Give your people every chance to defend their theories and ideas—but not to the extent that you breed a bunch of contentious idea hounds.

o

54. In departmental matters, deal with the head of the department direct, never through a subordinate.

o

55. Encourage heads of departments and individuals, through heads of departments, to bring their problems for frank discussion.

o

56. Trust your people and let them radiate that trust among themselves.

o

57. Do not play favourites, either openly or covertly.

58. Never spy on your employees—and be chary about listening to reports of those who do.

o

59. Unless absolutely unavoidable, do not in every case insist on the "routine" way of doing the day's work. Routine sometimes kills the working power of a productive brain which will conscientiously perform if left to perform in its own way. Quite possibly it may improve your routine.

o

60. When you criticize, be sure that your criticism is not offered to break down the other fellow's spirit. Criticism must be used only to set the other fellow's thinking right and improve his product—otherwise it will be a boomerang.

61. Do not talk grandly to a young man: "We want you some day to take the place of the manager"—then block every avenue against him. It seems silly to think that this is done—but it often is. That is why so much promising material promotes itself into another job—with another concern.

o

62. Get over to employees the necessity of care in the use and expenditure of the firm's money. In a fine way, make them feel that reasonable economy means, in the long run, a sound concern, and therefore a good concern to work with.

o

63. When you O.K. expenditures for improvements, do so graciously. Do not make everybody involved in the suggestion for the expenditure feel like criminals.

At Stand No. 1

at the Business Efficiency Exhibition

(City Hall)

Manchester, Nov. 9th to 18th, 1938

will be exhibited the largest range

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Industrial Sites, Buildings, Equipment & Management

WHY Inadequate Lighting *Is Bad Business*

By J. MORTIMER HAWKINS
Managing Director, Mortimer Gall & Co., Ltd.

First of a Series on
LIGHTING IN OFFICE & FACTORY
Next Month: How Accidents are Caused by Incorrect Lighting

WHEN I was invited to contribute this series of articles I had just returned from investigating lighting conditions in Norway. On the voyage back to England there occurred an experience which affords a good example of the relationship between the cost of good lighting and its return in increased production.

I was having breakfast on the M.V. *Vega* and four responsible business men were my table companions. We were enjoying some excellent kippers, when suddenly the lights failed. At once, however, the stand-by system came into operation, providing a little light with a lot of glare.

Under the emergency lighting I noticed that one of my companions was having difficulty with his kipper; said he could not see the bones. "There was not enough light." I produced my light-meter from my pocket, and we found that the emergency lighting gave 3 "foot-candles" of light on my friend's kipper.

Shortly after this the normal lighting was restored; up went my meter to 8 "foot-candles"; the kipper bones were easily discernible, and the atmosphere brightened considerably.

Business Men Don't Realize This

The circumstance was too good to be allowed to pass so I remarked to my friend: "Suppose you earned your living by removing bones from kippers you wouldn't make much of a show if you had to work under light such as we have just experienced."

He agreed that he would not. And he agreed that, as an employer, he would not be enjoying very profitable business if he were paying a hundred or five hundred employeees to remove bones from kippers if the factory lighting was so ineffective.

It amazed me to find that not one of these four business men—all responsible executives—had thought of lighting from this point of view. They had not realized that perception (ability to "see") is entirely dependent on the amount and the kind of light that falls on the object looked at.

Kippers for Breakfast

This incident brought home to four business men the reason why, in some factories, costs are high because workers CANNOT give of their best

It seems unbelievable that such a fact could be missed, but out of a very wide experience I can state definitely that it is one of those things with which the average executive is either not acquainted or to which it does not occur to him to give any constructive thought.

At any rate this incident at our breakfast table enabled me to stress the inescapable fact that unless employees are provided with illumination which is adequate to the nature of their work they will not be able to operate so effectively as they would under right conditions.

Some firms think that, by arbitrarily refusing expenditure on lighting equipment and by holding down on current, they are making economies. They fail to appreciate that employee wages are fifty times as high a factor as lighting costs and that by paring a few shillings off the electricity account pounds are lost every week through short-of-possible production.

When approached on the subject of lighting many business men

FREE ADVICE

on your Office and/or Factory Lighting

A Check-up on your present lighting may show where money-saving improvements could be made . . .

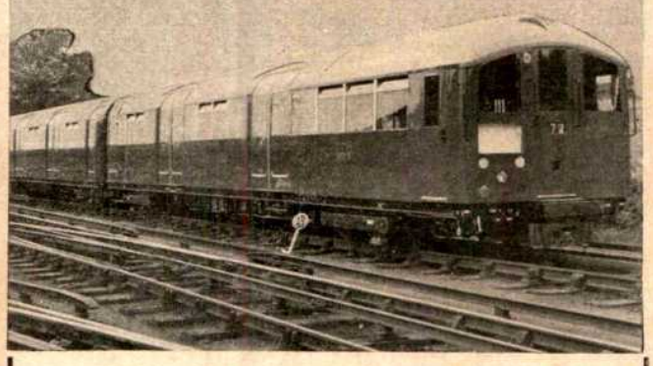
"BUSINESS" LIGHTING BUREAU[1]

exists to give readers this free service. At your request an independent, qualified lighting surveyor[2] will call, examine your entire lighting system and submit his recommendations;

Alternatively, if you write, giving all the relevant details you can, the Bureau will give you free advice by correspondence

1. The Bureau has no tie-up with manufacturers of electrical appliances; its advice is therefore unbiased. Direct correspondence to 'BUSINESS' Lighting Bureau, c/o The Editor, Whitefriars House, Tallis St., E.C.4.
2. While this Service is free, cost of travelling must necessarily be charged where the surveyor travels beyond 10 miles of Charing Cross.

This didn't 'just happen' *it had to be PLANNED!*



In the expert planning of this new all-Electric train, the necessity for the most modern and efficient lighting was not overlooked. Benjamin Equipment was chosen.

Planning, where every factor is taken into account, is always essential if the results are to reach the highest expectations.

Your lighting, for example, holds possibilities for planned improvement that are only apparent after careful and qualified opinion has been sought.

Let Benjamin Plan your lighting. Then you too can look forward to the proven benefits already being enjoyed by over 150,000 Industrial and Commercial Concerns.

THE NEW FACTORIES ACT now in force calls for suitable and sufficient lighting. This is best ensured by

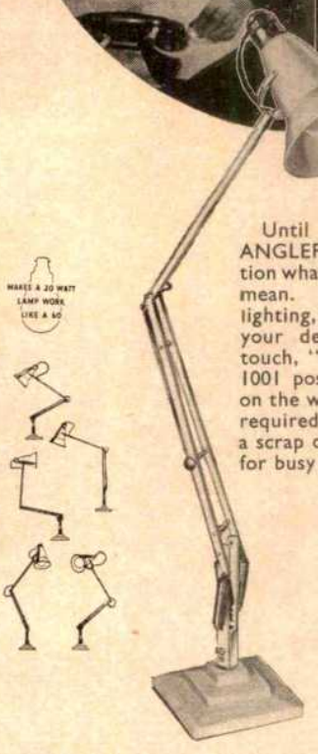
BENJAMIN PLANNED LIGHTING

Write for leaflet No. 1533/131 to:

THE BENJAMIN ELECTRIC LTD.,
Brantwood Works, Tottenham, London, N.17

BENJAMIN PROMOTES THE PARTNERSHIP OF LIGHT AND VISION

USE AN *Anglepoise* AND *See* THE DIFFERENCE!



Until you have used a TERRY'S ANGLEPOISE LAMP you have no conception what real business lighting comfort can mean. Instead of variable, badly placed lighting, often glaring, you have a light on your desk responsive to your lightest touch, "staying put"—holding any one of 1001 possible angles brought right down on the work or book, or out of the way as required . . . clear, concentrated, yet not a scrap of light in *your* eyes. Simply ideal for busy typists.

NOTE HOW THE ANGLES ALTER

Designed for correct lighting—comfort in office, factory, studio, home, etc. No fiddling nuts to tighten or catch fingers. Move it sideways, slantwise, upside down—all the time it throws a powerful beam of light—making a 25-watt bulb work like a 60—this means a big saving in light bills!

Chromium-plated arms, solid base, tireless TERRY SPRINGS. Base and shade in pleasing "Krinkle" enamel. In charming colours—red, green, orange, blue, cream, or as required. Many models in various forms—trolley, wall-fixing, etc. From 50/- (U.K. only). Pat. home and abroad.

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HERBERT TERRY & SONS LTD.,
REDDITCH

London : 27 *Holborn Viaduct, E.C.1.*
Manchester : 279 *Deansgate.*
Birmingham : 210 *Corporation St.*

SEND THIS COUPON TO-DAY

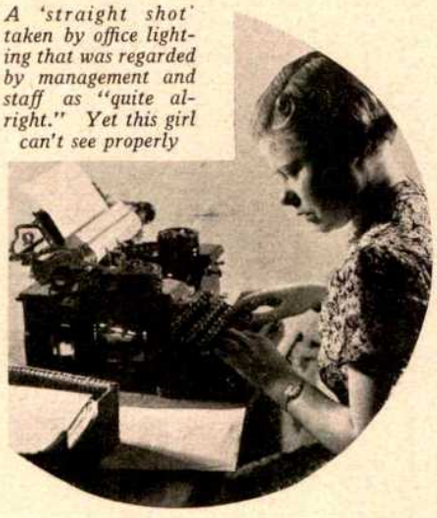
PLEASE SEND PARTICULARS OF ANGLEPOISE LAMPS
HERBERT TERRY & SONS LTD., REDDITCH

NAME .....

ADDRESS ..... *Business*

retort: "I don't know if the lighting in my factory is five, ten, or a hundred-foot candles; but my staff don't complain, and they do their work satisfactorily.

HEADACHE CONDITIONS:



A 'straight shot' taken by office lighting that was regarded by management and staff as "quite alright." Yet this girl can't see properly

Without altering the light power but by substituting a 'softer' reflector and moving the unit to the correct position first-class visibility at once resulted

The trouble is that part of this remark *is* right. Employees rarely *complain* openly about the lighting, and for two main reasons:

(1) People working under inadequate light get so used to the condition that they cease to be aware of it. Nevertheless, the fault and the *resultant losses in output* remain unaltered.

(2) Most employees fear that a complaint about lighting will be regarded as frivolous, especially in large works where foremen and charge hands are inclined to be a bit hard-boiled.

Another aspect of improper lighting is its effect on the mental and physical health of employees.

In a short article one cannot go into the complex range of human indispositions set up, directly or indirectly, through strain conveyed to the brain and body *via* the eyes.

But most executives are familiar with the difference between the strain imposed on them by driving a car a long distance at night compared with that of doing the same journey in daylight.

The extra strain of night driving is due solely to the vastly increased work and responsibility thrown on the visual nerves and muscles.

This car-driving experience is exactly parallel to adequate or inadequate lighting conditions in your offices and factory.

In their ordinary work employees do not, of course, suffer the peak-load of strain set up by driving a car at night. But they do suffer eye-strain that is proportionate to the extent by which their office or factory lighting falls short of a properly measured "adequate."

It will be useful, therefore, to look at the causes of this increased strain on a man driving a car at night. They are:

(1) The violent contrast between brilliant beams of the headlights and the surrounding darkness.

(2) Direct glare from street lamps, shop lights, signs, headlamps of approaching cars, and so on.

(3) Reflected glare from light-coloured or polished road surfaces.

(4) Speed of the car.

(5) An overall lower intensity of light than in the daytime.

The eye, a marvellous piece of self-adjusting mechanism, tries to adjust itself to all these violently contrasting and fluctuating intensities. Optical nerves and muscles, in this continuous effort, therefore soon reach a state of strain and fatigue which is not imposed by the higher intensity and even distribution of daylight.

The above five factors have their exact parallels in industry:

(1) In a factory with unbalanced individual and general lighting you get that too violent contrast between brightly illuminated machinery and the comparative darkness surrounding.

(2) Direct glare comes from the exposed filaments of badly shielded or "naked" lamps.

(3) Reflected glare comes from the polished or light-coloured surfaces of working materials through lights being fixed in unsuitable positions.

(4) Speed of movement. Consider the speed of the component parts of most machinery to-day. Even the type bars of a typewriter travel inconceivably fast, and they are continuously in the vision of the typist. True, she does not *look* at them, but the brain registers their movements, and the brain functions in this way because the stimulus of "seeing" travels *via* the eyes.

(5) On average, the visual effectiveness of artificial lighting in business houses is only one-hundredth that of daylight.

I think the foregoing remarks are sufficient to show the real importance of lighting and to indicate that it should be regarded and applied exactly like any other piece of hightly efficient business equipment.

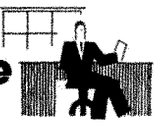
The scope and capacity of modern machinery is tremendous. But it cannot be utilized to its proper extent if operators are slowed down by poor visibility due to incorrect lighting. And it is in remedying this prevalent factor of short-of-possible production that manufacturers have a great opportunity for reducing their unit costs.

Why Night Driving Tires Your Eyes

The automatically adjusting optic nerves and muscles try to cope with these flashes of intense glare and pitch blackness. Their continuous effort to do this sets up the strain and fatigue that you suffer. Exactly the same reaction, in modified degree of course, is suffered by operators in wrongly lighted factories. . . .

. . . But here there would be no such eye-strain and fatigue. Even lighting of sufficient intensity provides visibility 'adequate for the job' (in this case, driving). That is what every office and factory needs, for best results

TEMPERATURE CONTROL by MAGNETIC VALVES



In office

or factory

is an essential factor of EFFICIENCY

★ *Write for the book "Temperature Control for all purposes."*

THE MAGNETIC VALVE CO. LTD

BUSH HOUSE W·C·2 : PHONE·TEMPLE BAR 7777

Facts and Ideas for Advertisers that you can Use with Profit

IF you could gather for yourself all the latest news, developments, and the most successful plans in the advertising field, and those selling methods proved soundest in selling practice—

How much would it be worth to you?

Pounds and Pounds! For it would help you to get more out of your advertising and to increase your turnover and profits. But the cost, if you did it yourself, would be prohibitive.

Here is a way you can do it for less than a penny a day.

For in the pages of the ADVERTISER'S WEEKLY there comes to your desk every Thursday just such a complete report as you could wish for, on the most recent news and developments in advertising and selling and in the latest ideas in Press, Poster, Direct-Mail, Outdoor, Sign, Film, Novelty and every other branch of advertising. In addition, you also get Marketing Surveys both regional and overseas, which show you the sales possibilities and facilities in all the markets covered.

To secure all these sales and advertising ideas, facts and data regularly every week, you need simply order your newsagent to deliver "ADVERTISER'S WEEKLY" every Thursday morning. Or, if you prefer, first send a post card for a specimen copy TO-DAY to the Publishers :—

Advertiser's Weekly

BUSINESS PUBLICATIONS LTD., Dept. B.O.
WHITEFRIARS HOUSE, TALLIS ST., LONDON, E.C.4

REDUCED PRICES

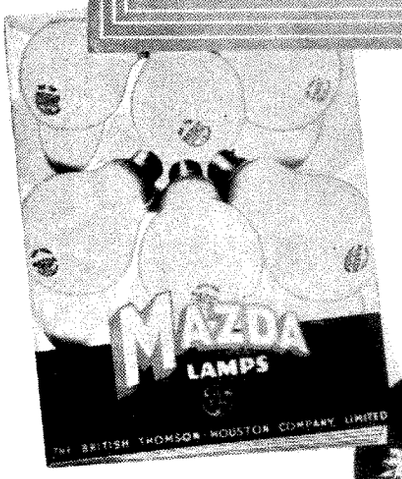
Many types and sizes of MAZDA LAMPS have been reduced in price. This, added to the fact that Mazda Lamps STAY BRIGHTER LONGER, enables you to obtain really good lighting at the lowest possible cost.

MAZDA LAMPS

Mazda Coiled-Coil Lamps give up to 20% more light without extra cost for lamp or current.

MADE IN ENGLAND

B T-H



Write for a copy of the new Mazda Catalogue. It gives full particulars and prices of the complete range of Mazda Lamps. There are many special types exactly suited to business and industrial requirements.

3780

THE BRITISH THOMSON-HOUSTON CO., LTD.,
CROWN HOUSE, ALDWYCH, LONDON, W.C.2.

As A.R.P. is 'The Fourth Defence Service'

You're in the 'Army' Now

A POINT of view which the majority of executives have yet to get about A.R.P. is that these measures have come to stay, that they constitute "the Fourth Defence Service" of the country. This being the case, manufacturers and business men who "pooh-pooh" the A.R.P. policy and who put off planning defence measures in their own offices and factories, are merely postponing a task that *must* be done before long.

Opinion along these lines was expressed recently by Wing-Commander E. J. Hodsoll, C.B., Inspector-General of Air Raid Precautions, at the quarterly luncheon of the Sheffield Chamber of Commerce. He stressed the need for manufacturers to get their A.R.P. schemes in working order now and not leave until actual emergency the training of staff, preparation of buildings and purchase of equipment.

Top Executives Should Handle This Job

Each month it becomes more apparent that A.R.P. plans are a matter of concern to top executives. Your plans must be investigated, discussed and approved in the boardroom and a senior executive must be responsible for putting decision into effect.

Many of the points raised by the Inspector-General in his address to the Sheffield executives provide food for directorial thought. For instance, in praising the action of the Sheffield Chamber in setting up a joint committee with the Federation of British Industries and the Sheffield City Council to link civil and industrial A.R.P. schemes, Wing-Commander Hodsoll said: "It is important that whilst industry has its own plans and is self-contained, it should be linked in the closest possible way with the city under whose wing you all live."

Now this applies to all industrialists in every part of the country. Does that link-up exist in your area? If not, it is a big and important job that must be carried through by you and other local leaders of business.

Here is a thought, too, on policy behind industrial A.R.P., a reason why your firm should bear this expense of defence: "The demands are perhaps irksome and sometimes difficult to meet but I will ask you to look at it as a problem of trying to give what protection one can to one's employees, to do what one can to keep business going—and this may be absolutely vital to the country. . . ."

Dealing with certain specific problems, the Inspector-General said: "Of one or two problems that affect industry the first is lighting. We have said that in an emergency we have to make this country as black as we can. The reason is a very good one. Think of a modern bomber travelling at 300 miles an hour, at a height of 15,000 feet. That pilot has got to release his bombs five miles before reaching the target.

At that speed of five miles a minute,

Bombers Can Spot this From Fifty Miles

Glare of furnaces, burning slag heaps, lighted factories, etc., at night must be camouflaged. Inspector-General of A.R.P. says the Government are working on schemes for this purpose, but he invites industrialists to co-operate with ideas and plans

if you can so mask your target as to make the pilot stop to think, you may make him miss it by about five hundred yards.

"There must be the greatest darkness possible. Many times it has been said: 'If we have to put blinds over the whole factory it is going to cost a lot. If we have to work out in the open we must have light.' We are trying to help you there.

"Supposing we give you a ten minute warning and you can have lights which are good enough to work by and are invisible outside twenty miles, that will be all right. We are trying to devise methods whereby factories can have a reasonable form of lighting going which might conform with that standard or which won't be visible at all from the air.

"The other day at Southampton Docks we did some very successful work with specially shaded lights which complied with that standard, and enabled shunting to go on, and the loading of the cargo—not as fast as normally, but still at a reasonable speed. I hope we shall complete these tests before long and then be able to pass on our information to you.

"There are also the problems of blast furnaces and of slag heaps. We shall be wanting your help in some of these problems. Could you perhaps see what can be done, having regard to this ten minutes' warning, to ensure that they are not going to give the whole place away. Work must go on, but at the same time we don't want with our darkening to let the whole show down by some great blare in the sky. We should be tremendously grateful for your help.

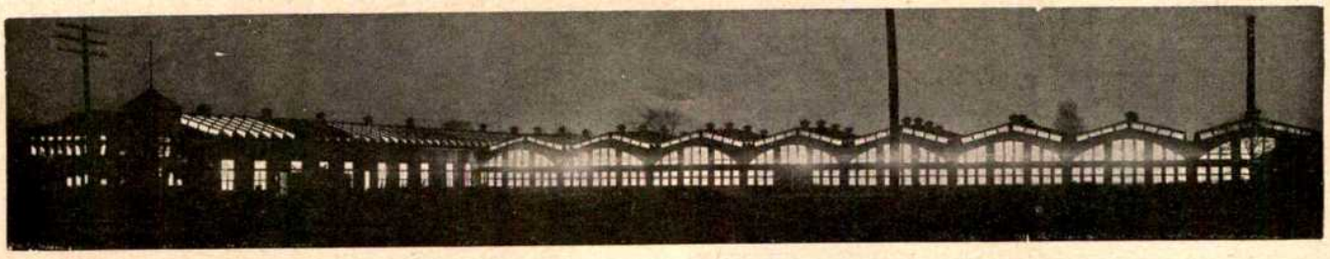
"The burning slag heap is another problem. If you look round the Government Departments there is usually an expert in anything. We have unearthed an expert on slag heaps. If you have any brain waves I wish you would help.

"We have a special department which is going into the question of what can be done to camouflage works, gas holders, and so on, always with the same object in view, to try and put off a hostile airman from a sitting target. One can think of places which hit you in the eye. If we can plant these into their surroundings it is going to be a very great shock to hostile aircraft. We are carrying out experiments, and if any of you want to help I hope you will let us know.

Smoke Screen Experiments May Help You

"Then there is the smoke screen. We are going to try and experiment with a really big scale smoke screen. At the same time there may be possible objectives which it will be well worth spending some thousands of pounds on providing with a screen; not just to cover the thing itself, but the possible land-

(*Continued on page* 35)



SAFETY From Blast — Debris — Gas — Fire

In These Small 'Funk Holes'

AMONG the most compact, economical and adequate means of providing protection for factory and office staffs is the concrete tube shelter. Tubes can be placed entirely or partially below ground in factory yards, areas and roads. They form shelters which will accommodate any number of people from four up to 2,000. During construction, the work in no way interferes with the normal routine in the factory or office.

Wide Range of Equipment

Equipment in these shelters may include any or all of the following: lavatory accommodation, electric light, supplementary lighting, electric fans, heater and kettle, wireless (self-contained), shelves for food storage, water containers, first-aid outfits, gas filter and protective units, etc. Shelters are, of course, usually constructed with an emergency exit.

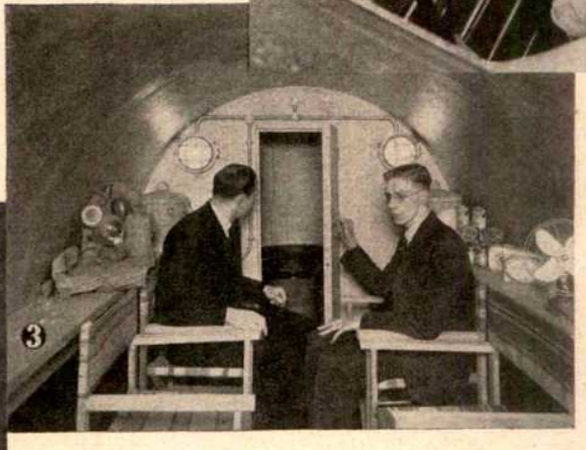
The tubes are made of reinforced concrete and built on the Norcon patented dovetail joints system. The outside of the tubes is covered with a patent air-proof rubber paint and has a finish of bitumastic compound. In cases where shelters are only partially underground they are equipped with a small window.

Construction costs vary, of course, according to the size and equipment of the shelter. It is possible, for example, to build a small, simple shelter for about £35, but to determine the exact cost it is necessary for a technician to investigate and make a report. A firm quotation can then be given. Norcon, Ltd., who build these tube shelters, provide this investigation service free of cost to readers of BUSINESS.

1. How effectively a concrete tube shelter is concealed can be understood from this illustration of the entrance. With a similar emergency exit, the entrance forms the only portion of the shelter which is visible.

Plenty *of* Comfort too

2. Permanent steel ladders allow easy movement in and out. Note well protected in-going electric cable (for light and power) behind ladder.



3. Shows shelves for storage and door to lavatory compartment. Through this door is also access to the emergency exit.

4. This uninterrupted interior view gives you a good idea of the seating arrangements. There is room enough for a number of people to stay in a shelter of this type for many hours. Notice the fan, wireless, first-aid outfit, hand-lamp, etc. There's plenty of room for all this equipment even in the smallest size tube shelter. It would even be feasible for office staff, for instance, to carry on with some of their work in shelters of this kind

A. R. P. Is Fourth Defence Service

(*Continued from page* 34)

mark. We hope that as we get on we shall be able to help you in all these different ways.

"Now about your own schemes in factories. We have tried to do our best in visiting a number of works and giving advice, but that is rather like missionary work. To start and get all ready it must be done jointly with the local authority so far as possible. I hope that the local authorities are prepared to run courses of instruction.

"We have a handbook which I expect you have all read. (Handbook No. 6.) We have given there general guidance, and I would like to say that while we have done our best to give that guidance, it must be adapted to meet local conditions.

"Quite a number of big cities have got courses not only for training in various kinds of A.R.P. work but on the organization side, and I am hoping that a bit later on we may be able ourselves to run certain organization courses. I believe they would be of great help. We all attach the most tremendous importance to getting a good organization out as soon as possible.

"One more point about exercises. When you have got people trained and an organization in hand it ought to be exercised. I saw the other day an exercise run by a great industrial concern. They asked me to see it, and as one might expect, it was extremely good. I would like all firms as far as they can, and when they are ready, to have those exercises, but don't have them before you are ready."

'There's Daylight in Them Thar Walls...'

A Little Paint May Mean a BIG CUT in Your Lighting Costs

LIGHTING costs can be cut in factories and offices by brightening light reflectivity of interior structure and fittings through the use of aluminium paint. At the same time the paint prevents corrosion of fittings.

Direct saving in lighting expenses made is revealed by the fact that the surface of this paint film reflects about 70 per cent of light incident upon it. In one well-known factory where beams, joists, ceilings and general structural work have been so treated, lighting conditions have been improved to such an extent that *an hour of daylight has been added to each working day.*

Walls may be washed down at frequent intervals without impairing the brilliance of the aluminium finish. The inclusion of mild alkali in the washing water is not in any way detrimental.

The high reflective quality—70 per cent of light incident upon it—of aluminium paint can be noticed here in this illustration of a recently treated factory. The paint is economical, too. One gallon will cover between 800 and 1,000 sq. ft.

Paint Is Protective As Well As Reflective

To-day, paint manufactured from aluminium paste gives an "armour-plate" surface. The pigment consists of flat particles of pure aluminium of uniform size. These rise to the surface of the medium in which they are mixed and applied. In doing so, they form a highly protective and reflective overlapping layer by the process known technically as "leafing". This layer has the capacity to secure protection from the destructive action of light rays and, by reason of its microlamellar structure, to preclude passage of moisture and similar corroding influences. The fact, too, that the particles are so small in area but regular in shape ensures the surface of the paint film being absolutely smooth. There are no irregularities to harbour particles of dust.

As an insulation factor, this paint has been successfully used upon roofs and walls of sheet-iron buildings. It lowers internal temperature in the summer and provides a more equable temperature during winter. Radiation from exposed steam pipe-line and conduit may also be reduced at less expense than that of lagging. Here, too, is the benefit of increased light reflectivity.

Aluminium paints made from paste pigments are economical and have a big covering capacity per gallon. Only sufficient of the paste and medium need be mixed for work in hand. Waste is therefore eliminated. *It is possible to treat with each gallon between* 800 *and* 1,000 *sq. ft.*, according to the nature of the surface upon which the paint is to be applied. Application is equally satisfactory by brush or spray. As the pigment is non-poisonous there is no necessity for special health precautions. Supplies of *ready-mixed* paint incorporating this pigment are obtainable from the leading paint manufacturers.

The paint may be applied to any type of surface—metal, concrete, plaster, wood, etc. Incidentally, the fine pigment particles effectively seal the capillary cells of the wood structure. This prevents distortion and deterioration of timber in steam-laden and other highly humid atmospheres.

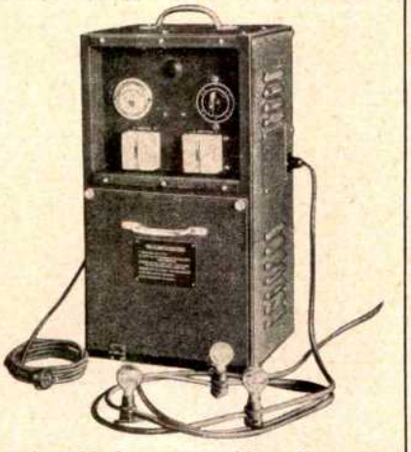
The Aluminium Information Bureau, of Bush House, London, the recognized authority on all subjects connected with the applications of the metal, will be pleased to give, free of charge to BUSINESS readers, technical advice on any problem connected with the use of aluminium paint.

Manufacturers Locating On North-East Coast Can Get Financial Help Now

MANUFACTURERS with ideas and initiative can find plenty of support—financial and otherwise—in most of the industrial centres of Britain to-day. All districts are eager to attract new industries and none more so than the North-East Coast.

It is not always realized to what extent local authorities and other interested bodies will go to help a manufacturer. In the case of the North-East the Newcastle Corporation are building a £60,000 dock alongside a £400,000 flour-mill recently erected by a private company. Another instance of co-operation is the construction of a £17,000 quay for a plywood company. This is being carried out by the Tyne Improvement Commission.

For Light-Up in Black-out



When a black-out comes, this small portable lighting set, known as 'Nife-Neverfayle,' can come into operation immediately. Compact, available in several sizes and equipped with long life batteries, this type of set fits in well with A.R.P. schemes

Top Executives Should Have These Facts

Every senior executive at some time has to consider factory location and needs, therefore, complete facts about all important industrial sites. The facts mentioned about the North-East, for example, are important and are the kind of information that should be on file in every board-room. For that reason alone you should get a copy of the booklet in which they are published: *The North-East of England.* It is issued by the North-East Development Board, Northumberland House, Northumberland Street, Newcastle-upon-Tyne, 1, and can be obtained free upon application.

Realising that out-of-date factory buildings are uneconomic, increasing numbers of manufacturers are moving into new factories designed exactly for their purpose. With production facilities planned to the smallest detail, these new factories are cheaper and easier to run than the old, and give a greatly increased speed of output. CS PLANNED FACTORIES, like the one shown above that we recently built for Messrs. Scrubbs Ammonia Ltd., have little relation to the factory building of the past. Their size, plan and location are arrived at through an accurate analysis of the type of manufacturing process to be housed and the labour and transport facilities required. Evolved in this way, CS factories work as efficiently as the machinery with them. You can buy or rent a CS PLANNED FACTORY in any of the industrial zones in the London area. For full particulars write . . . .

Among those well-known firms already installed in CS *PLANNED FACTORIES* are

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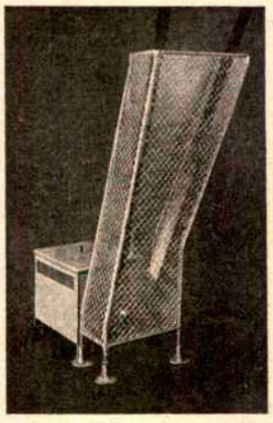
Mere WARNING *is not enough!*



Under the New Factory Act it is no longer sufficient to ***warn*** employees against accidents caused by "moving" machinery.

The Act requires absolutely that prime movers, transmission machinery, etc., MUST BE SECURELY FENCED for the safeguarding of personnel.

Procter Bros. (Wireworks) Ltd. can remove this problem for you. Where your present machine-guarding may be inadequate to meet the new ruling, or where new equipment of this kind is necessary, we can install the requisite wire-guards to afford complete protection without wastage of factory space.

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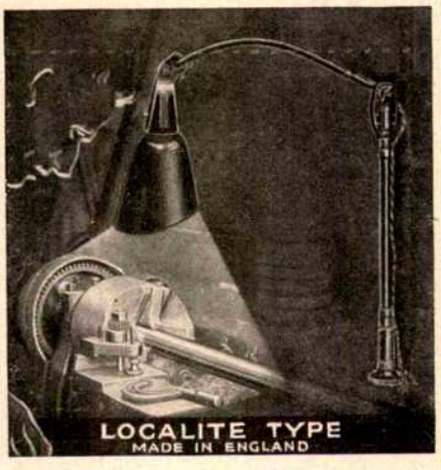
BY THIS METHOD YOU CAN COMPLY WITH THE REQUIREMENTS OF THE FACTORY ACT AND AT THE SAME TIME SAVE ON YOUR LIGHTING BILL



The "Localite" Arm directs concentrated light on the job in hand from any desired angle. No light is wasted, so that maximum kilowatt demand and current consumption are definitely lowered

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Raise Alarm, But Lower Costs With This Bell

A NEW type of fire-alarm bell for use in small or large factories and offices has just been put on the market at low cost. The bell, known as the "Beatibell," is similar to those used on fire engines. It makes the same distinct and penetrating noise and can be heard easily all over a building even where there is a heavy roar of machinery.

In many cases fire-alarm systems are fairly costly to install and need regular maintenance to be kept functioning efficiently. The new factory act makes some sort of alarm now compulsory and in most instances this simple "Beatibell" installation meets all needs. The bell can never get out of order, and any person can operate it.

Bell is Approved By Authorities

The standard model is a 6 in. bell, cast in bronze and banded red. It is mounted in a bracket and can be fixed to a wall or stanchion in a few minutes. A thong attached to the clapper makes ringing easy. The cost of the bell is 39s. 6d. It is supplied by a London firm specializing in safety equipment for industrial purposes. The bell, incidentally, meets the approval of authorities.

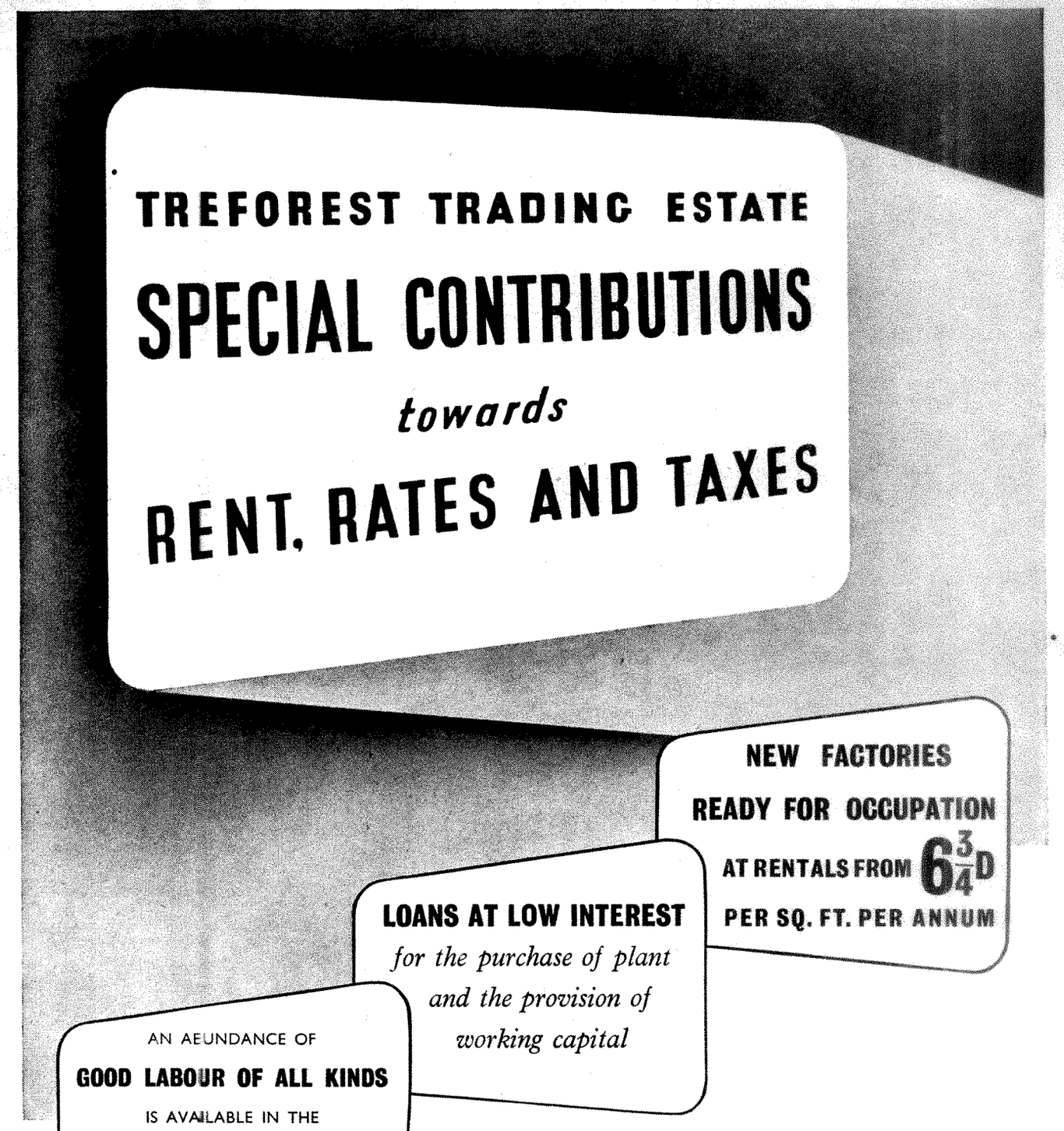
The new Factory Act also makes necessary the clear marking of fire exits. For this purpose there are now available "fire exit" plates with enamelled red letters on white. They are easy to clean and are supplied ready drilled for erection. They can be obtained in two sizes: 15 in. by 6 in. (4 in. letters), price 2s. each; 18 in. by 8 in. (6 in. letters), price 2s. 9d. each.

Staff Wardens' A.R.P. Booklet

IN a simple manner A.R.P. work that can be carried out by small firms and by individual persons is illustrated and discussed in a booklet just published. (A B C of A.R.P., published by Jordan & Sons, price 6d.)

Throughout the booklet use is made of diagrams, plans and other illustrations, to show how precautions can be taken and made effective. They show simple and inexpensive methods of protection against high explosive, incendiary and gas bombs.

Also given is information of value to A.R.P. office and factory wardens who will find the illustrations of use in their work of instructing the staff on what to do.



Post this for full particulars of the special financial inducements, power and transport services, local markets, sites, factories, etc., to :—Douglas A. Duncan, General Manager, South Wales and Monmouthshire Trading Estates Ltd., 45 Western Mail Chambers, Cardiff. 'Phone : Cardiff 3674.

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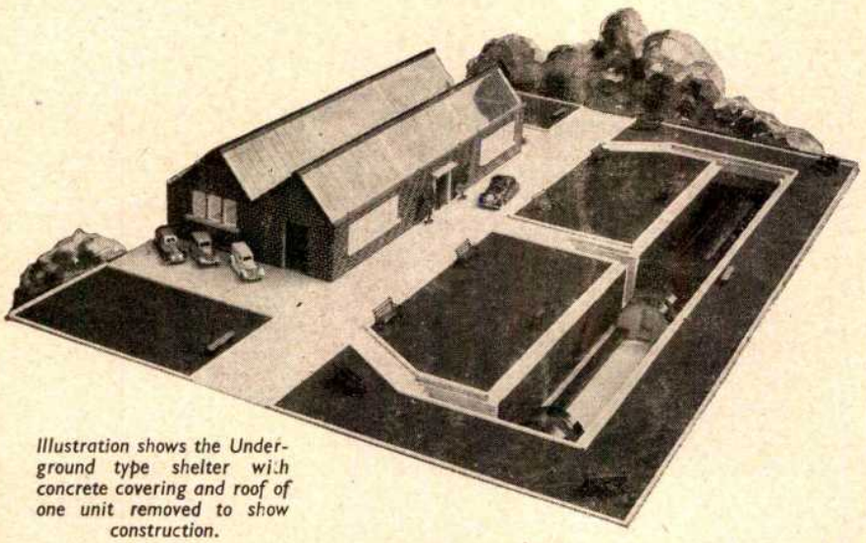

Illustration shows the Underground type shelter with concrete covering and roof of one unit removed to show construction.

The "Nissen" Air-Raid Shelter has undoubtedly taken its place as the acknowledged economical form of protection against aerial attack. It was designed to conform with the recommendations of the Home Office Authorities, and Shelters are being installed for some of the principal Corporations and Institutions throughout the country.

Models for above or below ground construction are available and can be supplied to hold 10, 25 or 50 persons per unit. The fullest particulars will gladly be provided on application.

The NISSEN AIR RAID SHELTER

NISSEN BUILDINGS LTD., RYE HOUSE, HODDESDON, HERTS.
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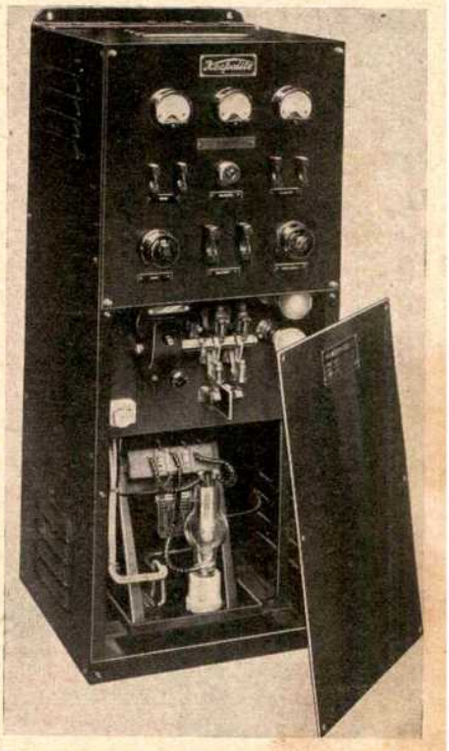
These Employees Think Up Cost Cutting Methods

CUTTING costs without lowering quality of product is one of the tests of management and of the resourcefulness of staff. A good instance of success in this respect happened recently in a small furniture factory at Slough, where a foreman not only thought out a way to save the firm a large sum of money but at the same time was able to improve the product.

The company had built up a flourishing business in certain lines that were fitted with chromium handles. The foreman's idea was to substitute wood handles. Moreover, he had thought it out to a point where he could show the firm how the job could be done in the factory. Previously the point of view had been that such work was beyond the resources of machinery and labour possessed by the company.

The foreman made the necessary jig, fitted the machine so that the operator could not possibly harm himself, and set a boy to work, turning out high-class, fancy handles.

These wood handles now cost less than ½d. each. The metal handles the firm had been buying for years cost anything from 6d. to 10d. each. In addition, the most critical customers have stated that they like the new handles much better than the old.



This Keepalite emergency lighting A.R.P. standard cubicle model measures only 47 in. high, 18 in. wide, and 20 in. deep. It takes up very little room in a shelter. The batteries are assembled in a portable case for ease of stowage at a point near this control case

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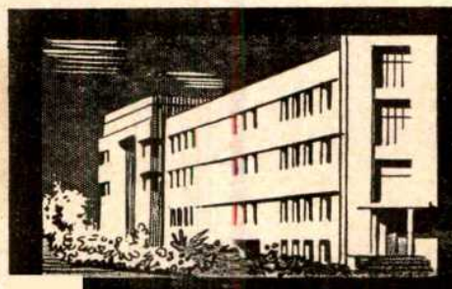

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THE CONCRETE PAINT

TUNGCRETE

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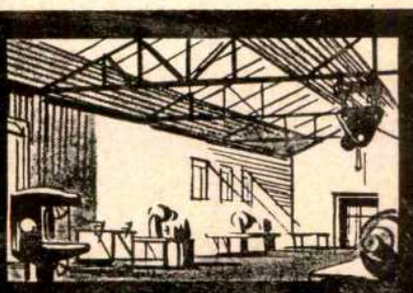

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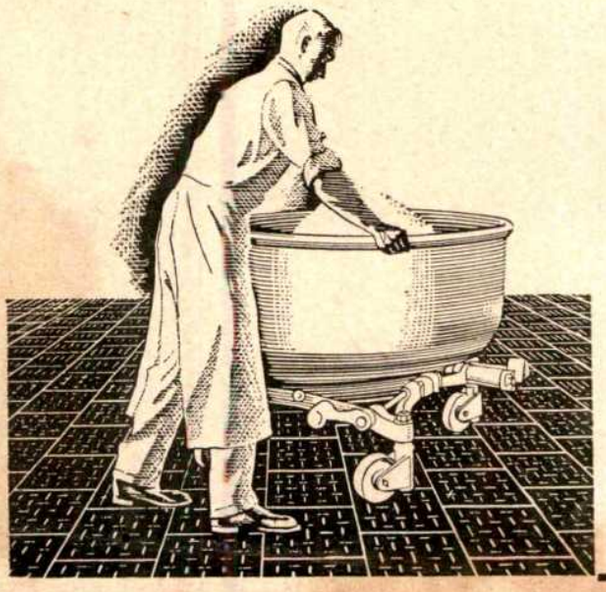

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We have supplied them to industrial concerns, large and small, in a wide range of industries and in many countries of the world. We invite you therefore to consult us about your flooring problems.

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whatever the load

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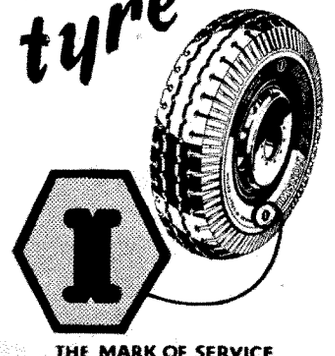

THE MARK OF SERVICE

Longleys 2065

Light-weight Diesels

Can Reduce Your Haulage Costs

(*Continued from page* 16)

showed the gross weight as 7 tons 14 cwt., which included a 5-ton test load, plus the weight of the driver, myself, fuel, oil, water and spare wheel.

Observations were first directed to the common objections to diesel engines by petrol-minded operators, and I found that at idling speeds the engine ticked over with no suspicion of knocking. The engine was next accelerated by the driver while I watched the exhaust, which was quite free from fumes throughout its whole speed range. This is an important point for operators carrying foodstuffs.

Although mounted in a frame designed to receive the Commer petrol engine, the Perkins unit is arranged to give the maximum accessibility, the removal of the cover within the cab exposing the whole engine at once should any examination or adjustment become necessary.

The absence of carburettor or ignition, of course, eliminate adjustments frequently needed for these troublesome parts, and Perkins design and workmanship is such that the fuel system rarely needs any attention.

After running the vehicle for a few miles to get the general feel of the engine and to satisfy myself that its response to the pedal would permit quick and easy gear changes, I made a few acceleration tests. These produced very gratifying results and demonstrated the vivacity of the engine, which develops a maximum output of 85 b.h.p. at 2,600 r.p.m., thus making easy work of hauling our 5-ton load.

Despite the high gear of 6 to 1, we made a very good start on direct drive and reached the speed of 30 m.p.h. in 30 seconds. Any suggestion that the diesel engine lacks flexibility was confounded by my next test when, by using the four gears in the normal manner, the speed of 30 m.p.h. was reached in 22 2/5ths seconds.

For pulling hard at low speeds, the diesel engine is generally admitted to excel, the final test from 10 to 30 m.p.h. on top gear confirming this quality with the result of 19 seconds.

With regard to acceleration generally, the Commer-Perkins performance is indistinguishable from that of the petrol-driven model, so that, quite apart from its outstanding fuel economy, the machine can be relied upon to fulfil all requirements where journeys involve numerous stops and restarts.

Engine Deceleration Assists the Brakes

On the outward run a long gradient of 1 in 20 was surmounted easily on third gear with engine power in hand, and later on we found no difficulty whatever in surmounting a gradient of 1 in 6 at a steady 8 m.p.h.

Another valuable quality of this light-weight diesel engine is its instant deceleration, which means that, by releasing the pedal the vehicle will slow down rapidly without need for excessive brake application. Hitherto engines of the type have proved somewhat deficient in this respect, and in consequence wear and tear on the brakes has been abnormally high.

On open stretches of road the Commer-Perkins 5-tonner can maintain high speeds in an effortless manner, but the engine is governed to 2,600 r.p.m. to give the maximum fuel economy.

Fuel Consumption 20.75 m.p.g.; Against Petrol's 12

Particular attention was paid to taking a fuel consumption test under fair although exacting conditions. The section of the route chosen for the purpose included a number of gradients for which third gear was needed, and a uniform speed of 30 m.p.h. was maintained wherever possible. No attempt was made to economize fuel by coasting down easy gradients, and changes of gear were made in the normal way as circumstances dictated. Readings of the graduated tank and distance shown by milestones gave a figure of 20.75 miles to the gallon, as compared with 12 m.p.g. obtained from my last test of a similar vehicle fitted with the standard petrol engine.

On the return journey we stopped on a 1 in 6 gradient, when a very good restart was made with no difficulty whatever. At no stage of the test journey did the engine evince the slightest tendency to overheat, neither were any fumes detectable within the cab.

In short, the combination of the Perkins engine and the Commer 5-ton chassis appears to be excellent in every way, while the economy obtainable cannot fail in its appeal to light-weight vehicle operators.

FACTS AT A GLANCE

Vehicle Tested: Commer-Perkins 5-ton Lorry.
Makers: Commer Cars, Ltd.
Engine: F. Perkins, Ltd.
Capacity: 5 tons.
Body Length: 17 ft. 0 in.
Wheelbase: 13 ft. 9 in.
Fuel Consumption: 20·75 m.p.g.
Pay load Ton Miles Per Gallon: 103·75
Max. Gradient Climbed: 1 in 6.
Annual Tax: £30.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

OCTOBER, 1938

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THE TREND OF TRADE

New Light on the Changing Situation

By Cecil Chisholm, M.A.

AS I write the possible issue of the crisis is still in the balance. The executive has to consider the effects of three possible contingencies—of war, of protracted negotiations for peace, of a settlement.

Each will call for widely different policies.

In the case of war the situation is at least predictable. Almost overnight we shall find prices soaring, raw materials rationed, transport control under priority certificates, private orders dried up outside food and transport, a rush of Government orders for every form of raw material, war equipment and supplies.

Just Another Case of 'Carry On, Everyone!'

THERE will be no cause for panic action, for immediate closing down of works, or for large dismissals of staff. Obviously 43 million people will still eat three meals a day; still consume chocolates and drive cars; still live a relatively normal life. As munition making expands hundreds of thousands of workers will have more, rather than less, to spend. Almost everything depends on the type of product being made. If it be war materials, the sales problem virtually disappears, and attention can be concentrated on the problems of production; of securing labour-saving equipment against competitors, or speeding up production generally.

Where a factory is not making war materials, the entire range of production will have to be reconsidered. During war the demand is first for necessities, secondly for semi-luxuries, while very many luxuries simply disappear from the market temporarily.

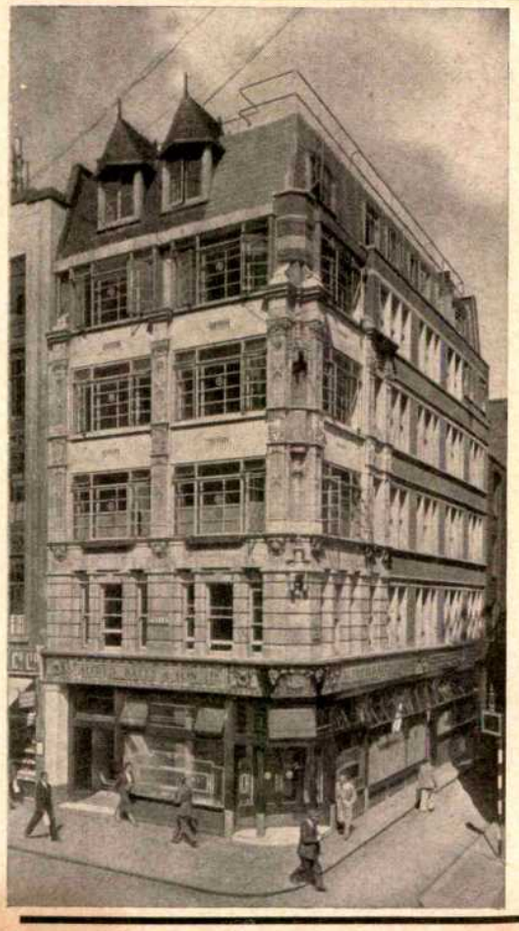
It is imperative to decide as quickly as possible how much of the plant-making luxuries can be turned over to the making of other necessities of direct or indirect use in war.

Men For Women Swap Is Number 1 Problem

THE problem of securing man power by substitution of women for men; the training of apprentices to replace skilled workers comes later. In any event it is vital that the whole fabric of the business be weakened as little as possible during the trying transition period between peace-time conditions and war-time conditions.

Should protracted negotiations be carried on, the autumn revival may eventually collapse. Difficulties of direction are less obvious, but the dangers are equally insidious. Orders are bound to remain few when no one knows what is about to happen: but it is fatal to allow entire sales and production fabrics of the business to deteriorate seriously on that account.

Should a settlement come suddenly, the entire organization is caught napping while lively competitors run away with the business. Every possible sales connection must be kept alive: the responsible executive and management staff must be weakened as little as possible.



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GIVEN a settlement, managerial policy is clear. One must utilize the upswing in public confidence as quickly and completely as possible by an intensive sales campaign. The less the selling and advertising organization has been impaired during the crisis the better the chance of capturing a big share of the possible business.

A settlement of the crisis would so exhilarate Wall Street and Chicago business as to set going the essential re-stocking movement which will raise prices of raw materials and bring salvation to the producers. To assess the possible situation one must look at the broad background. More important than the new check is the relative strength of the forces that were already working for recession and for revival before the crisis.

Europe 'Going Down' Was The Trade Trend

ON the one hand the swing of the trade cycle downwards was becoming increasingly definite, not only in this country but throughout Europe. The August export figures were the worst for two years; textiles were still in decline; steel output continued to fall steadily; the big shipbuilding yards became increasingly dependent on Admiralty contracts; private car sales fell by 11 per cent, 12 per cent and 19 per cent respectively in the first three quarters of the year.

On the other hand, building was holding up astonishingly well, public and industrial building taking up the slack left by the reduction in private house building; employment improved slightly both in July and August, normally months of decline, shop sales were again up by 3.8 per cent in August; the fall in commodity prices seemed to be arrested just as the crisis broke, the shadow factories were getting into operation; the aircraft industry was booming; the effects of rearmament expenditure were driving up prices and wages in a very wide range of industries. Settlement would stimulate private enterprise of every sort without weakening the rearmament movement.

Rearmament Gave Trade Counter To Recession

BEFORE the crisis the tussle between the down-turn of the trade cycle, evidenced by falling exports, declining

Reading the Indices.

For these new indices, the average business activity in each area during 1933 is taken as the base (=100). The indices are given by months.

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textiles, tinplate sales, and the impetus of rearmament programme was fairly even. It was difficult to say which would win. Consequently prospects for the autumn were relatively good; there was even a chance of the normal autumn upswing. Every day of negotiations making this chance: settlement would double it.

The difficulty is to discover precisely how good or how bad the pre-crisis situation was. Were we at the peak of a big boom, or were we simply enjoying that blessed state "normally"?

Fortunately new researches make such a comparison possible for the first time. For four years Britain has been enjoying continuously a boom greater than that of 1929; a boom unparalleled in our history. It was a boom due to the greater output per employee, reduced prices and increasing purchasing power, thanks to labour saving machinery.

Up With Activity, Down With Prices

BETWEEN 1924 and 1930 business activity rose by about 5 per cent but prices fell by about 6 per cent. It was between 1930 and 1935 that the astonishing advance was made; during each of these years output per employee increased by at least 4 per cent a year, or 20 per cent in all, while the price of output fell by 3 per cent for a year, or 15 per cent in all; the increase in output per worker was probably still greater since the executive staff increased in proportion to workers.

Between 1930 and 1935 some of the increases are surprising: public utilities and Government departments increased their output by 27 per cent per head; mines by 31 per cent (1924-1935), while agriculture output rose by 40 per cent in the same period. During this phenomenal boom the national income was increasing by around £300,000,000 per annum. As Mr. Colin Clark points out, after paying for necessities, the population of Great Britain had a surplus of around £250,000,000 more in each of these years to spend on added comforts.

1,200,000 Jobless— We Were Prosperous

IT is true that at the top of this new boom there were roughly 1,200,000, or 10 per cent of insured workers unemployed. Had these unemployment figures not sunk so deeply into the consciousness of the public, our extraordinary prosperity as compared with other countries would have been obvious to everyone.

Even to-day Great Britain stands at a quite exceptional peak of prosperity: yet even at the bottom of the slump industrial output was only down by 7 per cent, although we had over 3,000,000 unemployed. (Whether we like it or not, increased unemployment in the basic and modern mass production industries seems to be inevitable, whether the trade cycle moves upwards or downwards. Here is the social problem of our new prosperity.)

Clearly even a deepening recession would leave British industry at a high peak of activity. Further the fall in retail prices, coupled with the stability of wage levels and the exceptional number of employed people, is a buffer against recession itself. Ultimately indeed either war or a settlement should offset the downswing of the cycle, by ultimately increasing employment.

These Factors Made Our Position Sound

BUT this level of prosperity was due to a sound underlying situation. It was due, among other things, to cheap money, to the cheapening of sterling and the formation of the sterling group at a critical moment: to tariffs modified by Mr. Runciman's skilful use of both Empire and foreign trade agreements; to cheaper production, of which we have seen evidence, and in my opinion, to instalment selling.

How many of these factors are with us to-day? Fortunately money is still cheap; production prices are relatively low but the normal series of adverse factors are coming into play.

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It is true that these factors are not so serious as they were in 1930. The banks liquid reserves are higher; interest rates are low; there are no frozen foreign debts; there is the impetus of rearmament expenditure. Yet the dangerous factors are there, particularly in sterling still over-valued against the dollar and therefore hampering export trade; in the artificially high price of steel and of coal; in the increasing adverse balance of trade; in rising production costs; in increasing taxation; and in crisis psychology.

Foreign Trade Decline Is Cause Of The Slump

THESE influences are steadily reducing our foreign trade; and it is the failure of foreign trade which is largely responsible for the textile and the shipbuilding slumps, if not the tinplate position.

Probably our best hope for an improvement in our export trade is continued revival in the United States. Unfortunately the crisis has had most serious effects on the American situation. Enterprise is holding back; building expansion remains spotty; the railways still fail to spend, simply through lack of money; but the failure of the wholesale end of business to improve is clearly due to the European situation.

Finally, the fear of labour trouble hangs over the steel and other industries. The American revival, therefore, remains dangerously hesitant. However, no country would respond more rapidly to a European settlement. It is still possible that American industry may set the pace for a normal winter revival by coming into the raw material markets again on a big scale, but it is not a prospect on which to bank.

This Is What A Fall In £ Sterling Means

ONE crisis factor is certainly assisting the export business; this is the fall in sterling. It is curious that some of the banks and newspapers should take this so seriously. The pound sterling has obviously been overvalued against the dollar for at least a year: and the fall in sterling not only helps us to compete abroad, but saves gold and kills a further deflationary influence.

Throughout the Empire the effects of lower commodity prices are being increasingly felt. In New Zealand particularly both production and exports are suffering.

The whole of Europe's business has been shaken by the crisis. Only Germany and Russia continue to keep their entire population at work on full time.

In Scandinavia the effects of the recession are already being felt.

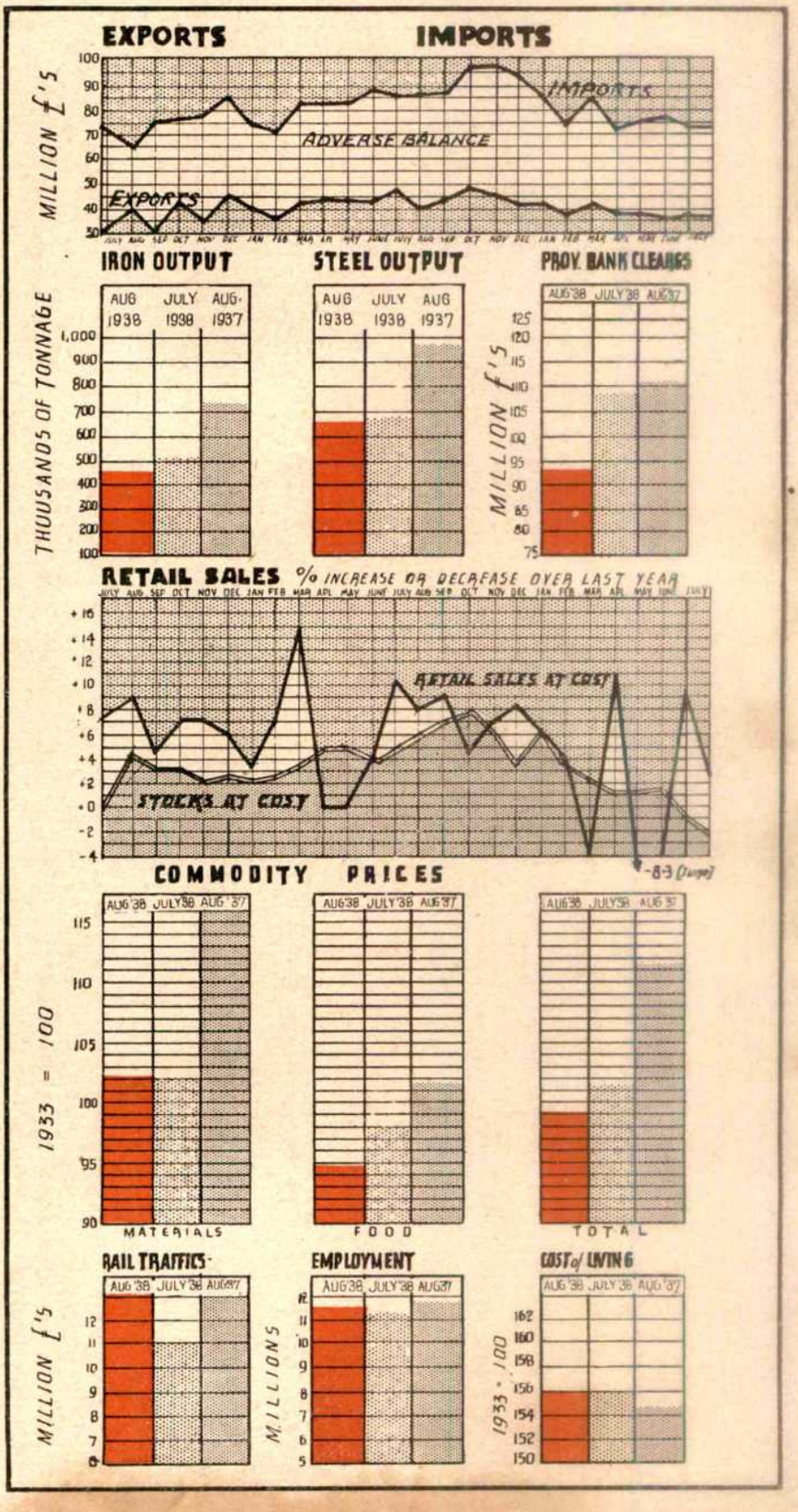
The trend in France remains obscure, although, by tempering the severities of the 40-hour week, M Daladier should enable French business to compete much more successfully abroad while rising purchasing power at home.

A settlement would revitalize European business (outside the totalitarian states), under the impetus of an American revival.

And that revival would almost surely come if a promising agreement was reached between the important states of Europe. The outlook, therefore, is hopeful.

GUIDING FACTORS IN THE TREND—

All comparisons are with the similar month in last year



Here's *NEWS* of Active Home Markets

About £730,000 will be spent during the coming two years by Port of London Authority on reorganization of Royal Victoria dock building: 5 three-story warehouses; 5 miles of railways, roads, drainage, etc., development being carried out; complete electrification of whole dock. Improvements also to be made at Tilbury dock—L.C.C. contract for whole requirements of electric lamp placed with Siemens Electric Lamps & Supplies, Ltd., for 12-month period—Superheater Co., Ltd., London, have orders from Bengal-Nagpur Railway for 7 superheaters for boilers being built by Stephenson & Hawthorns, Ltd.; also supplying superheater for Peruvian Corporation—G.E.C., London, have order for 15 sets magneto switchboards and spares for Chinese government—A.E.C., London, recent orders are for 24 vehicles—London Transport Board have signed £500,000 contract for lining tube railway with reinforced concrete segments on sections of Central London line; work being carried out by Charles Brand & Son, Ltd.

Nearly £750,000 To Be Spent by Bournemouth, Poole and Christchurch on sewerage works project—Middlesex C.C. are spending £85,000 on road widening work at Ealing—Contract for work costing £380,000 has been signed by the London Transport Board; job part of tube extension scheme total cost of which will be about £16,000,000—Tonnage of goods imported via London docks during past year was 36,704,160 tons, a 4 per cent rise on last year's total.

£3,000,000 Nuffield Aircraft factory, Birmingham, now being built, has received an initial order for 1,000 high-speed Spitfire Fighters from the Air Ministry; when complete, the factory will employ between 12,000 and 15,000 men—Extension of Daimler Co. machine-shop, at Coventry, being carried out; new factory is to be operated by Standard Motor Co., for manufacture of aero engine carburettors for the Government.

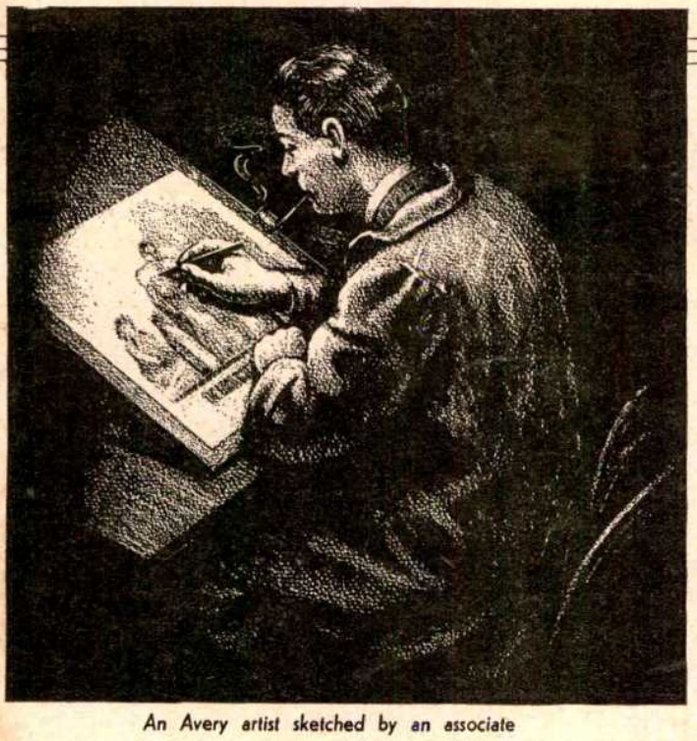
Work For Another 500 persons will be provided by Corah & Sons, Ltd., Leicester, when extensions of their hosiery factory are completed—Evans Lifts, Ltd., Leicester, now carrying out extensions; will provide work for 300 persons when completed in December.

About £6,000,000 New capital is being invested in additions to works and plant United Steel Co.'s steelworks, Scunthorpe; almost complete duplication of existing works is being carried out—Redbourn works of Richard Thomas & Co., Scunthorpe, being enlarged; additions to melting-shop and finishing-mill in progress; when scheme is complete, works will have capacity of 500,000 tons of steel yearly—Rotherham Forge & Rolling Mills Co. reconstructing and modernizing heavy forge department—Sheffield has just opened world's largest gasholder which has a capacity of 8,000,000 cu. ft.

Nearly 6,000 Persons will ultimately be employed at Worsley, near Manchester, when Montague Burton, Ltd., Leeds, complete building of a big new factory; housing estate being developed near the factory by Worsley Council—At Blackburn, Philips Blackburn Works, Ltd., factory is nearly finished; will provide work for about 3,000 persons this autumn—Gallaher, Ltd., tobacco manufacturers, have bought 23-acre site at Wythenshawe, Manchester, and are building a factory for cigarette production; about 1,500 people will be employed; Manchester Corporation propose building 600 houses near the factory; part of the site has been presented the city as a permanent open space—Colgate, Palmolive, Peet, Ltd., an American firm, have bought a soap works at Salford; factory now employs 200 persons, but will employ many more when extensions, now in hand, are completed.

Over 200,000 Tons gross were launched by Scottish shipbuilders in first half of this year, the highest half-year output since 1930; at present on stocks and fitting-out basins, Clyde shipbuilders have 75 merchant vessels aggregating 419,000 tons gross.

Increase In Exports to the extent of 49 per cent in value over figures for the corresponding period 1937 is the record to date of Leyland Motors, Ltd., Leyland—Head, Wrightson & Co., Ltd., Tees-side steel firm, is extending manufacturing facilities for core production in connection with making carbon and special alloy steel castings—Cleveland Stone Products, Ltd., are to manufacture artificial stone.



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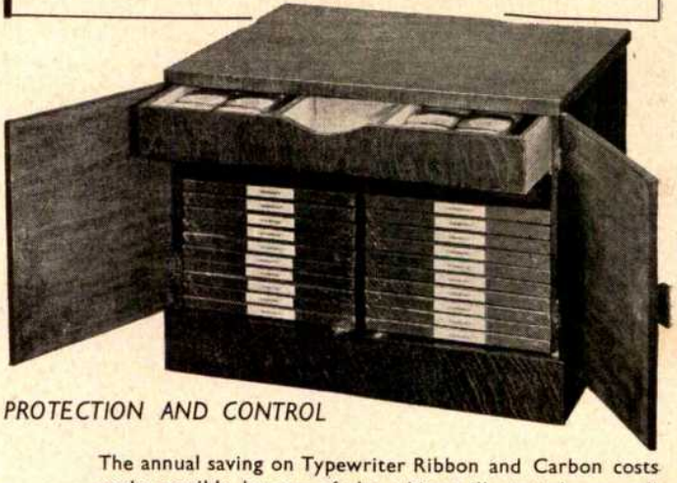

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NOVEMBER, 1938

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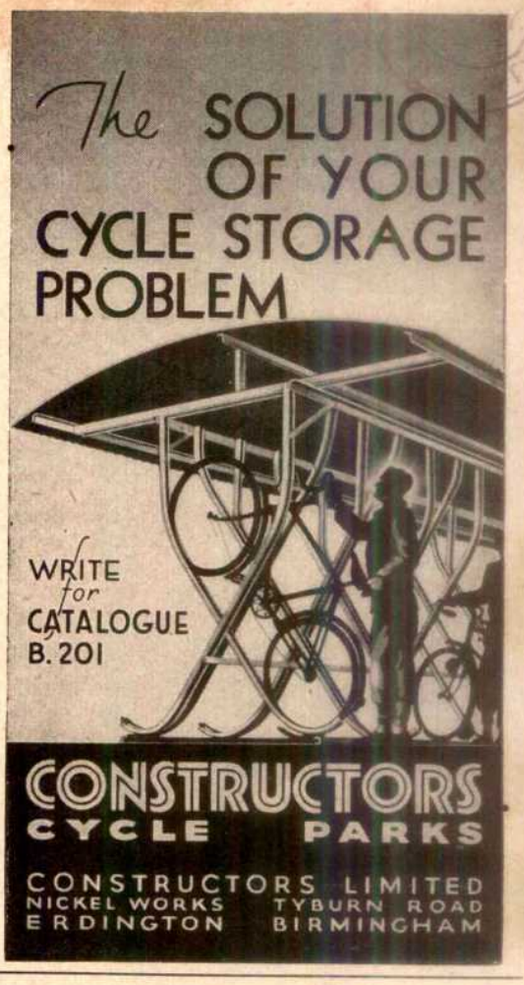

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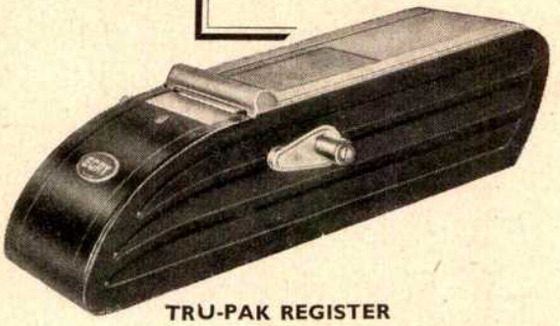

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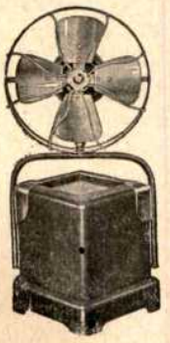

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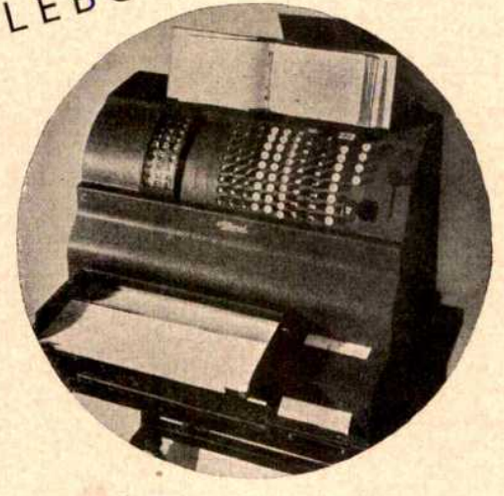
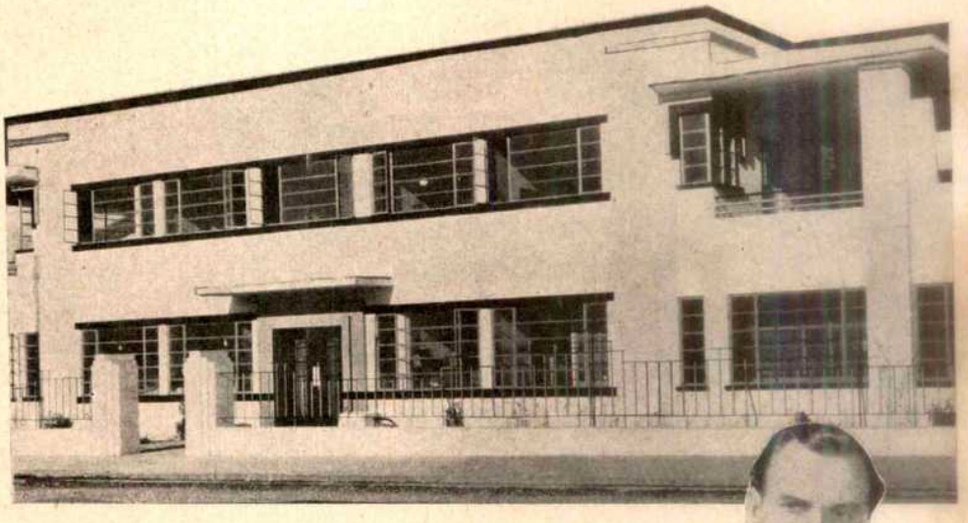


Thousands of Small Businesses Must Reorganize *Now* . . .

urges **C. H. COSTELLO, A.C.I.S., A.C.W.A.**



Over-night extinction faced thousands of small manufacturers in that crisis week of September. Unpreparedness was the reason. Here we suggest what to do NOW so that you will not again be caught . . .

MANY "little men," vitally important in Britain's manufacturing industries, are just recovering from a very bad shock.

The recent crisis which brought this country to the brink of war threatened overnight extinction to countless small businesses that were not organized to meet the emergency.

Before going on to make any suggestions as to how these little men can safeguard the future and prepare against the possibility of another national emergency let us see just how important the small business is to industrial Britain.

Of Britain's Manufacturers 98% are 'Little' Men

Out of a total (in round figures) of 134,000 manufacturing concerns in the kingdom no less than 130,400 of them are "small" businesses.

Ninety-eight per cent of Britain's manufacturers are "little" men!

To the average citizen that sounds fantastic; and generally, in his incredulity, he will retort: "What? With all those car magnates and the chocolate, tobacco, radio, bicycle, textile and other vast concerns? Mean to say they constitute only 2 per cent of the country's businesses?"

The answer is, notwithstanding that imposing array: Yes

What is a "small" business?

Most people consider as a small business a concern employing from 25 to 250 people. But of such firms there are only 26,400 out of the 130,400 mentioned above. The remaining 104,000 are concerns that employ *up to* 25 persons; that is, from 1 up to 25.

So we have 104,000 *really* small businesses.

To our friend who thinks of Britain's manufacturers in terms of Nuffield, Austin, Vickers, Cadbury, Wills, I.C.I., and so on, let it be explained that there are but 3,370 firms having on their pay rolls from 250 to 1,000 employees, and only 420 firms in the really "big-man" group, that is firms which each employ 1,000 and over.

Of course this reference is to numbers of businesses. That has nothing to do with the numbers or percentages of people employed by the big concerns as against those on the pay rolls of the

little firms. Nevertheless, it is an eye-opener to most people.

Now to take one typical example of the small business man out of many thousands who faced the crisis in that unfortunate September. What happened?

A man of military age, say 35, married and with a small family. From a modest capital and with ten years' hard work he had built up a little manufacturing concern, turning out a product with a popular demand in the semi-luxury market. He employed 20 people and was himself the king-pin of the business; sole directing power and chief salesman.

This man was patriotic, but he remembered what happened after the last war to many small business men who were similarly patriotic in 1914. Their after-war experience was not what they expected it would be.

Face To Face With This Grave Problem

He faced dilemma. What should he do?

To join the colours immediately, as he felt bound to do, would mean the end of the business in twenty-four hours. There was no one to carry on, either on the technical or the financial side.

The Government's policy was uncertain. Would there be conscription or not? Supposing there was not conscription at once, could he, by staying with the business, keep it going?

There would almost certainly be an immediate falling off in demand for his product. Some at least of his employees would leave him and join up. There would probably be some disorganization, if not a hold-up, of his raw materials. With income jeopardized he would have to start making inroads right away into his slender capital.

And then what? His extinction would simply be but little slower than if he had thrown up everything at the beginning.

These and many other unpleasant things really confronted many thousands in that fateful month.

How To Avoid Being Caught Again

Now how can this sort of nightmare be avoided, or at least lessened, if another similar situation blows up like a tornado?

In the first place the small man should put himself on a broader financial footing. It is all very well for him to say: "I built up this business with my own money and my own hard work; I'm not having shareholders interfering with my policies or sharing my profits."

That is a reasonable viewpoint and a quite tenable one—*in ordinary circumstances*. But we have seen with what alarming suddenness the circumstances became extraordinary, and we realize what a trifling shift of the balance may cause them to become so again.

Capital stability, then, is the first thing the little man will want as a foil to an emergency. It will give him breathing-space: permit him to carry on, at least for the time being.

Unfortunately there is not space here to explain in detail the many ways of re-financing a small progressive business. Provided the business is sound it is, however, quite an easy matter.

Capital can be introduced privately by inviting the participation of friends; a solicitor can arrange it, or the matter can be put into the hands of a reputable finance house. It is all a question of suiting individual needs.

The main point to emphasize here, however, is that, with capital and control arranged properly, the business man has the financial responsibility largely taken from his shoulders. If, therefore, he has to take a decision about leaving his business for patriotic reasons then he and his family can feel satisfied that there will be at least no immediate and serious interruption of income. The business will have some reserve of capital, and it should have, if the little company has been wisely formed, a reserve of directing personnel.

But with recapitalization more than mere financial betterment can be secured. What the business man can do—and should do now—is to spend wisely and constructively on the best possible equipment and plant. Obsolete and obsolescent machinery and methods should be scrapped. They can be replaced much more easily now than after an emergency has arisen. In the event of war, tools and plant are among the most difficult of all things to secure when they are wanted.

With equipment readjusted to the best possible standards no time should be lost in finding out just what particular lines of national work (if any) the manufacturing part of the business could take on. It may be that with but slight adaptation the whole plant could be switched over to war work.

Get in Touch With This Government Dept.

The projected Government scheme for the registration of all businesses may in due course be of some assistance in this direction, but in the meantime the astute business man must help himself.

The thing to do is to write to H.M. Office of Works*, describing in the fullest detail possible the nature of the plant, what it is manufacturing and how much; give factory area, staff employed, and what room (if any) there is for expansion. Give also any suggestions of your own as to what you

(*Continued on page* 30)

*Storeys Gate, London, S.W.1.

With *Your* Help
The Air-Mail Carriers
Can DOUBLE Their Loads

USE light-weight paper and envelopes for *all* your overseas correspondence. That is the appeal the companies operating the air-mail services are making to every business house.

Recent developments in the air-post network are a tremendous help to business. If executives, however, will give effect to this simple act of very inexpensive co-operation the air-post can immediately be made still more effective. For this reason: for every letter on ordinary paper and envelope carried by the mail planes, two, or even three, on light-weight paper could be carried.

True, two sheets of ordinary business notepaper and an envelope weigh less than half an ounce and can, therefore, be sent under the Empire air-mail scheme for three-halfpence. Light-weight paper will not, therefore, do much in the way of actually cutting your postage costs. The issue is rather wider than that. But read what an official of Imperial Airways says:

"While, with this co-operation from business houses, the *number* of letters will not vary, their gross *weight* and *space* will be reduced in proportion to the number of letters which are of light-weight paper.

"In other words, the capacity of the airliner to carry more mails, more freight and more passengers is substantially increased. In effect, we achieve bigger and more useful planes before they are really built.

"With the introduction of the all-up mail, we now carry in and out of Southampton 1,500 tons of Empire mail a year. In addition there is much intermediate mail which never reaches Southampton but is carried by Imperial airliners between points out along the routes.

"No other country in the world carries anything like this bulk of external air mail.

"Still further service to business—and in deed to every individual who corresponds overseas—can, however, be given. To this end the campaign to encourage the wider use of weight-reducing paper is being quickly conducted, and if all business houses will help us more than half the problem will be solved."

Photo from Imperial Airways

Leading paper manufacturers make wide ranges of special air-mail paper. Your printer can get samples for you.—Ed.

Getting Instructions Carried Out

Mr. M. M. Gilbert

Ensuring that subordinates carry right through with instructions issued to them is one of the greatest problems of the executive—if he is to avoid wasting his time in personal follow-up. In this article the writer outlines briefly his own technique

By M. M. GILBERT
Director, The Jaeger Company Ltd.

IN the last issue of BUSINESS the two ways of getting instructions carried out—i.e., "Leading" and "Driving"—were compared.

Speaking personally, I have no time whatever for the "driver," and I think he will ultimately disappear from business—from progressive business at any rate.

Driving depends for its efficacy mainly upon the element of fear aroused in subordinates, and no man or woman can do intelligent, efficient work if he or she has the "wind up."

There are, of course, degrees of driving. It would probably be hard to find a real old Simon Legree in control of any business to-day. But Simon has his modern counterpart in the type of individual who follows a policy of arbitrary domination over his subordinates.

[Mr. Gilbert does not like that word 'subordinate'. His regard for every member of the Jaeger organization and his appreciation of their work and responsibilities are the antithesis of what 'subordinate' suggests. But to preserve uniformity with the articles which have preceded this one, and in which the term 'subordinate' was used throughout to denote executives other than the head of the business, Mr. Gilbert agrees to its use in these notes.—ED.]

The many degrees of severity and shades of subtlety with which such a policy can be pursued were outlined in last month's business, so it is unnecessary to go into them here. And, anyway, that is not my purpose.

It is rapidly becoming understood that management, first and foremost, must be concerned with the harmonious and sympathetic handling of human relationships. Financial suzerainty is no substitute for this vital requirement.

This Spirit of Goodwill is Essential

I believe that to get a business instruction carried out promptly and completely it is essential to issue that instruction in a *spirit of goodwill and to get it accepted in that same spirit.*

The Jaeger Company comprises manufacturing, wholesale and shipping organisations, executive offices and 40 retail branches through the Kingdom, also Overseas subsidiaries

This may sound easy, but in point of fact it calls for considerable study and a definite technique, so infinitely various are the gradations of human qualities and sensibilities encountered.

There is one quality, however, that is, to a greater or less extent, common to all individuals. And that is—inertia. However efficient, loyal and good spirited a staff may be, each individual comprising it has this factor, in some degree or other, inherent in his or her make-up.

I say that in no derogatory sense. We all have it. But the point I am getting to is: that to get issued instructions carried out promptly by subordinates the controlling executive must plan his technique to overcome this factor as completely as possible.

In my own work, therefore, I endeavour always to deal with every situation the moment it arises and to issue at the earliest possible minute any necessary instructions regarding it.

Deal With Matters While They Are 'Hot'

That produces *Action*. In the first place such immediate attention to the matter overcomes any tendency to inertia on my own part; and, secondly, the early issue of instructions while a matter is "hot" has the same effect on subordinates by impressing them with the urgency of the matter. *Action* is essential.

The mere issue of instructions, however, no matter how well they are understood in the mind of the issuing

VITAL POINT

By explaining in clear terms the exact situations in regard to which any instruction is issued, Mr. Gilbert says——

This gives the subordinates a *clear mental picture of the goal at which they are to aim . . .*

Consequently the instruction can be understood, not as a mere order to do some unrelated thing, but as an intelligent plan for carrying out a complete operation.

This, Mr. Gilbert maintains, is a most important and constructive factor in a policy that aims to get instructions carried out efficiently and to time.

executive, may not by any means appear in the same comprehensive light to the people to whom they are issued.

For this reason I aim always to "dramatize" instructions by hitching them to a definite and understandable story.

For example, the evening before providing the notes for this article, I had just returned to London from a visit to some of our Scottish branches. As a result I needed to issue some instructions to certain of my departmental executives.

Now this could have been done in a straight, descriptive way: "Do this, do that, do so-and-so."

Issued like that I am sure the instructions would in fact have been carried out; but there would unquestionably have been a certain amount of hesitancy and referring-back. Also, I myself should probably have had to do a certain amount of checking-up to see that everything had been carried out as I wanted.

Instead of doing that, however, I followed my policy of hitching the instructions to a story.

'Dramatize': It Clears and Fixes The Instruction

First thing in the morning (thereby acting immediately) I called a conference with the necessary executives and explained, *in narrative fashion*, my experiences at the Scottish branches.

In this way the points and situations which I required altering were precisely explained. The full purport and reason for the instructions relative to the alterations were therefore completely understood.

Instead, therefore, of working more or less blindly on a mere instruction my subordinates gathered *a clear mental picture of the goal at which they were to aim*; in other words, they saw the condition of the situation which the instructions were designed to alter.

With such a full conception of the objective they are to reach, instructions to that end obviously become crystal clear and consequently easy to carry out.

Even so, granted that instructions become clear, how does the executive ensure their being carried out without constant follow-up?

In reply to this I say that the very fact of the situation being pictured to the subordinates ensures this.

If you instruct a man: "Do this," or "Do that," he may or he may not do it. If he cannot see any reason or purpose for it he may let the old inertia creep in until in due time he has forgotten all about the matter. But if, on the other hand, you give him a clear mental picture of a new situation that his effort is to create then he is far more likely to proceed as instructed because he will realize that the condition of that situation is self-evident, that it is there to proclaim his action, or lack of it. The follow-up is thus automatic without the executive having to employ his time on inquiries.

Another factor which I find makes subordinates more active in carrying out instructions is to let them have some say in the formulation of those instructions, or, even further, to arrange it so that the necessary action is the suggestion that they themselves make.

Whether at conferences or in my day-to-day contacts with employees I always try to arrange this. Having called attention to any matter that needs altering, I lead the conversation in such a way that the proper action becomes more or less obvious, then I say: "Well, what would *you* do; what do *you* suggest?"

People then much more readily and more happily carry out their own suggestions.

Turn on Sunshine if The Clouds Appear

Occasionally, of course, it is necessary to be in some degree censorious at the time of issuing instructions. But I make it a rule, while putting over my points, always to break up any atmosphere of tension with some sudden switch-over to a joke or a mild leg-pull.

It is marvellous how this, if sympathetically done, can bring back the sunshine of goodwill that is essential if instructions are to be properly carried out.

A variation of this technique and one by which an imperative instruction, perhaps even coupled with a mild censure, can be put over effectively is to make the matter "reflexive."

For example, if I want to admonish an individual or to renew an instruction in such a way that it more or less implies an admonition I never tackle that person singly or just "bawl him out." Instead, I call him in, with others, on a little conference and criticize the matter generally, taking up points with everyone present in such a way that the delinquent himself can see his own failure without it having to be paraded before him.

It might be, for instance, that Mr. X has not produced a certain range of new styles asked of him. But, instead of demanding of Mr. X: "Why the h——," and so on, I simply say to other collaborators: "Look here, A and B, I wish you'd help X on this new range; he's got to produce it by Friday—etc. etc."

The aim is to impress X with the instruction and yet to keep him happy and still feeling personally responsible for the job. He then feels it is really up to him to get a move on and to see the instruction through.

The above example is very sketchy, but it conveys the idea. It can be dressed up to any extent necessary.

To bawl a man out simply kills his feeling of responsibility and tends to reduce him to an automaton.

All this is something of my individual technique; but over and above it I do feel that the executive must be *close* to his staff and to let them feel at all times that he is conscious of their work and their problems and appreciative of their efforts.

For this reason a big percentage of my time is spent, not in my office, but in going around to every department in the organization, including, of course, our retail branches throughout the country.

My contacts with everybody from head office executives to workroom operatives and sales hands in our furthermost branches, are maintained with the same desire to inspire and to help—never to criticize without also building up, and never, under any circumstances, to leave an individual feeling crestfallen or unhappy.

I believe that, through this method of "leading," subordinates get a perfectly clear idea of the instructions issued to them; they feel personal responsibility for carrying them out, and they feel *happy* in so doing.

With these factors in operation it is my experience that "action" is very largely automatic. I do not find it necessary to spend much time in personal follow-up.

MAKE Your Business Revival Don't *WAIT* For It

FATAL anodyne is the passive reliance on Government spending. Too often do we hear business men resignedly investing in the Government the main powers for improving trade.

"This increased rearmament programme," they say, "will buck things up."

Government spending does give a fillip to a good many activities, that is true. But, as a writer put it in a recent issue of *Fortune*: "Government spending does not waken that imagination of capital—that entrepreneurial vision which sees profit in giving the customer more value for less money."

The real way to permanent trade recovery—and to trade stability on a high level—is bold, independent progressiveness on the part of every man controlling a business. The spending of money on new and improved equipment, on research into new products and new uses for old ones, on vigorous sales promotion plans, and on *constructive* economies.

That is the kind of thing that will get the trade wheels to spin faster—and keep them so.

At a round-table talk . . . . . *JACQUES PENRY*
Business Character Analyst.

JOHN BEHARRELL
Managing Director, Hawker & Botwood Ltd.

and ***THE EDITOR*** **. . . . discuss a method whereby**

Staff 'Select' Themselves

Of vital interest to every employer: This method ensures all jobs being filled by the people best qualified to do them. It means quicker and more accurate selections, higher efficiency and lower overhead costs

THE Editor: I understand that your idea, Mr. Penry, is to apply to staff selection the faculty of character-analysis from the face.

If your method has advantages over existing general practice I am sure that all employers of labour will be interested in what you have to say.

Mr. Beharrell here is, if I may say so, representative of the type of business man to whom I refer. As head of a manufacturing firm he has the whole range of employee grades on his payroll. Naturally, therefore, he has staff problems that are common to thousands of firms.

Mr. Beharrell: Forgive me, Mr. Penry, if I confess to coming here with a certain amount of doubt. In my mind, character reading has always been associated with gipsies and fair-grounds.

It seems obvious, though, from the few minutes' preliminary talk I have had with you, that there is something wrong with such an impression. So, to clear my mind a bit, perhaps you will outline briefly the theory underlying your idea.

Mr. Penry: I'm glad you raised that point about gipsies and the like, because I welcome the opportunity of disposing of it right away. Physiognomy is one of the oldest of all sciences. It has, however, been sadly neglected by serious workers and at the same time much exploited by charlatans.

Nevertheless, character-analysis from the face *is* a science and leads to results as accurate and practical as those from any other science.

These Developments Show Clearly in Every Face

To put it quite shortly, the whole range of a person's instincts, abilities, aptitudes, mental and moral characteristics, both inherited and inculcated, stimulate his body to perform in very definite ways. Through this constant performance the physiological elements concerned (muscles, tissues, etc.), develop in response, and in no part is this development so clearly proclaimed as in the face.

Everyone reacts, more or less, to what he sees in another's face. When you meet a man, who may be a prospective employee or other type of contact, you immediately *feel* some indication about that man. You may feel that he is the right or the wrong man for a particular job. You may feel you like or dislike him.

You react in this way by instinct alone. If I asked you to describe what exactly there was about the man that prompted your reactions, you probably couldn't do it, except perhaps in some very vague way.

Now what you do—what everyone does—by instinct, I do by trained observation, and trained observation opens to me a far greater range of character- and ability-revealing signs, than the untrained observer would see.

Mr. Beharrell: Yes, that sounds logical, but how often one hears the comment about a man: "he belies his appearance." You know what I mean—the sort of man who may come to your office for an interview in connection with a position.

The man makes a favourable impression. He seems likeable and apparently is a good man for the job. Later, however, he proves by his actions to be a man of completely opposite character and of little real ability.

Quite possibly I should be interviewing such a man as a candidate for an executive position in my firm. If I went by my instincts (and in them I have considerable faith) I should commit a grievous mistake, because that man will in all probability have references that do not give away his true character and ability.

Would you, Mr. Penry, at first glance at this man, be able to discern his real character and aptness for the work in spite of his opposite "front"?

Mr. Penry: I should like to emphasize, Mr. Beharrell, that the man who "puts on an act" is as easy to spot as a beacon on a dark night. If you meet

John Beharrell

Jacques Penry

a man who goes to all that trouble—and I admit there are people who do it—you would not, if you knew *how* to observe accurately, be misled for more than a few seconds.

But, without any conscious intention to mislead or defraud, the average candidate does actually put on a "front." He does it subconsciously. If he wants the job he naturally tries to impress you. His bearing, his speech, his recital of experience and past records he tries to present in a way that he thinks will be most favourably regarded by you.

But the inexorable fact remains; his emotions, his character, his potentialities and his aptness for any particular type of work, have left indelible marks that are independent of any momentary pose. The marks are there to observe. They tell the *real* story about that man.

After a few minutes of any interview the first tenseness, the initial "bracing-up" as it were, usually relaxes, and the natural indications remain without even superficial camouflage.

Accuracy in Personnel Selection is 95 per cent

The Editor: Mr. Penry, may I interject a point here. You have, over a period of years, been estimating character and fitness for given jobs through a study of the face. I think it might help us to get the full significance of what you have just said if you will give us some idea of your average degree of accuracy as proved by subsequent results.

Mr. Penry: Yes, I can tell you definitely: an accuracy of 95 per cent.

Mr. Beharrell: That is very interesting. If it means that by this method a firm can have 95 per cent of its employees doing work for which they are best fitted and in which they have the greatest potentialities it looks as though one aspect at least of personnel management is solved.

An applicant's references and past record count for very little.

Mr. Penry explains WHY.

Mr. Penry: I have visited some of the best-managed firms and largest department stores in this country, and from even casual observation I have seen quite clearly that at least 33⅓ per cent of the employees are in the wrong jobs. This is that they are doing jobs for which they are, to varying extents, unfitted to give of their best abilities.

Mr. Beharrell: Can you give us a practical instance where your method of staff selection has actually helped a firm in the way of increased efficiency?

Mr. Penry: When I was working in the United States I joined, as a sales supervisor, a manufacturing and a distributing firm. We had 16 delivery routes. From my records I found that some of the salesmen were not doing the volume I thought was possible. I made changes on the basis of what I have just been describing, and within four weeks the results were such that I was asked to take over sales management of the whole concern. I did this and within 13 months had developed the 16 routes into 46 and expanded the coverage of all the routes .

In total this represented a treble increase of the whole business in just over a year. And this was mainly the result of my ability to pick the right men.

The Editor: How long does it take you, Mr. Penry, to decide if an applicant is suitable for a given job, and how do you regard his past record and references?

Mr. Penry: I should make this clear: I do not rely much upon a man's past record and still less upon his references. In many cases—probably the majority—the applicant has so far been working at the wrong job, or in the wrong circumstances, so his record and references will not reflect his real potentialities.

The Real Point to be Considered

What I *am* interested in, though, *is the job he is being selected to fill.* I want to know *all* about that. When I know the job and the circumstances and conditions surrounding it, then within ten minutes of being confronted with an applicant, I can tell, accurately, whether he is well fitted for it or not.

Mr. Beharrell: Working like that from the "job" end instead of from the "employee" end seems to be the reverse of present procedure.

Mr. Penry: It is. It is exactly the reverse. If what I want to know about a candidate can be represented in size by a billiard-ball, then what I want to know about the job to be filled must be represented by the area of the whole billiard-table. It is in that proportion.

I will give one brief example, and you will see what I mean.

A certain firm could not keep a post filled in one of its foreign branches. Man after man was carefully picked, sent out, and proved a failure within a year or so. This was getting to be a highly expensive process.

This firm was making no mistake in selecting men from the point of view of *ability*, but it was working from the employee end instead of from the job end.

That job imposed on the young men out there a very particular and difficult problem in the mode of living and social conduct. Under that, plus a peculiar climate, the average young man just did not stand up. Ability had nothing to do with it.

When this aspect of the *job* was considered it was easy to pick the man.

So you see why I want to know most of all about the job. When I subsequently confront an applicant his face (not his record) will then speak for itself.

This is equally important in home conditions as in the case of posts abroad. I quoted the foreign example, as it is such a clear one. The factors arising locally are usually less obvious and more involved.

Mr. Beharrell: I think your point is

(*Continued on page* 31)

Save At Least 70 Per Cent of *This WASTED Light*

ONE of the important points in connection with A.R.P. is that at night-time factory windows must be darkened.

For this purpose our Lighting Consultant points out that opaque blinds *with a white inner surface* are doubly effective in that they first achieve the primary object of preventing light being visible from outside, and secondly that they add a tremendous light-reflecting area to the inside of the factory. The working light-efficiency, he says, is thus raised considerably.

This, in turn, raises the question: Why not white-lined blinds for factory windows, anyway?

Stand outside any factory that is working after dark. It is ablaze with light. Light paid for, yet escaping through thousands of square feet of glass.

Blinds with white inner surfaces would reflect back into the working areas *about 70 per cent of that light which escapes.*

Too expensive to fit blinds? It need not be. Even a coarse white cotton would make a great difference. And on all but the north side many modern factories already have sun-blinds fitted, which could be adapted.

Anyway, there is the idea. There is the way to use 70 per cent of the light that now unprofitably escapes. It is a point worth considering.

MANAGEMENT *Notes of the Month . . .*

By

The EDITORS

Civilians and Soldiers : They're All The Same Now

TO quote the leading article from a well known daily paper: "We have now learned, that if war comes, it will be totalitarian war in which the old distinction between fighting men and civilians disappears. . . . It is ludicrous to think that the nation's life could be reorganized for war, *after* its outbreak, without immense dislocation."

This "reorganization for war," much as the need for it may be deplored, affects industry and business probably to a greater extent than anything else.

The more that can be done now, therefore, to organize every manufacturing plant in the Kingdom to a point where it could, in emergency, contribute its maximum to National service, the more securely will the country be safeguarded against surprise.

AS we have seen, war on a vast scale could be upon us almost at a moment's notice. The need for production machinery and services to be able to hitch up to war service without even an hour's delay is therefore vital.

Without any plans for "co-opting" industry which the Government may now or in the future have in mind, business itself can do a lot towards making itself more quickly adaptable to special service.

That word "*quickly*" is the vital quality because the change-over, if it is demanded, must be *immediate*.

Speed : But It's Just a Foretaste

IN those last days of September war did not come to Britain, but it came sufficiently near to give a foretaste of the *speed* with which industry must get to work on National service.

For example:

On Sunday, September 25, Birmingham A.R.P. officials wanted nearly 1,000,000 gas mask cartons immediately.

At lunch-time they phoned Mr. C. H. Foyle, head of Boxfoldia Ltd., who agreed to supply 30,000 to 50,000 a day, for 13 days, first delivery to be made on the Wednesday. Supplies were to be corded and complete with platforms, and the paper and board required had to be ordered, made and brought to Birmingham.

Production involved over 100 tons of material and processes included—lining, printing, cutting, stripping, cording and stitching.

Members of the firm's staff were summoned by phone or collected by car, and throughout Sunday afternoon and night, estimating clerks got busy with board specifications, rates and costs, and all forward preparations for production were put in hand.

But by 11.30 p.m. Sunday no board or paper contracts were placed apart from an order to Disley Mill, Stockport, for an M.G. paper which, if the required Kraft could not be obtained, would have to be substituted. Attempts to get in touch with other mills failed.

However, a chip board from Boxfoldia's stock was requisitioned until the new lot could be made and shortly after 11.30 p.m. the manager of Cooke and Nuttall's Mill, Horwich, was reached by telephone and scheduled a making of Kraft paper for 6 a.m. Monday.

Final effort of that busy Sunday was the drive by Mr. Foyle's two youngest daughters to Lancashire to take samples of paper to the Disley and the Cooke and Nuttall's mills. Leaving by car just on midnight, the messengers reached Stockport in the early hours of the morning.

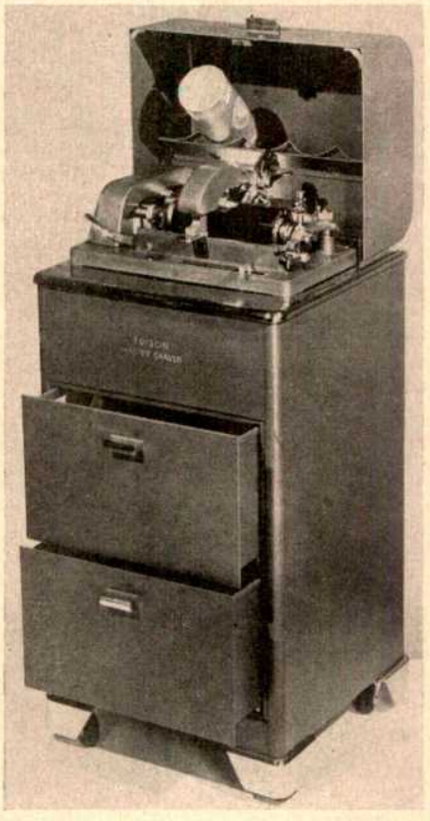
From there to Horwich darkness and lack of knowledge of the district delayed them. Racing through what they thought was the right locality they were stopped by a police officer. More furious at the waste of time than at the prospect of a speeding fine, they discovered—a friend. Horwich local police had instructions to guide a Birmingham car to the mill and officers were stopping vehicles in order to identify the travellers.

At 5.30 a.m. the Misses Foyle delivered the sample.

At 3 p.m. the same afternoon supplies of the paper left Lancashire for Birmingham.

Meanwhile, Wright's Ropes, Ltd., of Birmingham were worked overtime making cord for the cartons, and further activity at Boxfoldia ensured that machines on board-cutting and lining would run throughout the night.

The one difficulty in completing the order was the cording of the cartons by hand. An experienced hand-worker could cord only 1,000 cartons in a nine-hour day. No juveniles under 16 can work overtime. Period of overtime for woman workers is strictly limited.



The Ediphone new Master Shaver has some important features :

1. *One movement of lever automatically sets knife at exact pressure, irrespective of skill of operator.*
2. *As motor is switched off, the knife automatically clears cylinder surface.*
3. *After motor has been cut off and while cylinder is still turning on mandrel, lifting the ejector-brake stops revolutions of the cylinder and ejects it from mandrel.*
4. *To give final polish to cylinder surface, a light finishing cut is taken when lever in front of shaving arm is lifted.*
5. *A strong light bulb is recessed in underside of shaving arm to illuminate surface of cylinder being shaved.*

Factory Act Conditions Had To Be Waived

At 3 p.m. the same Monday Boxfoldia's secretary asked permission from the local factory inspector to work longer hours. Written application stating full requirements was apparently necessary. Following through the factory schedules very closely, it was decided that, to get the work completed, it would be necessary for hand-workers —irrespective of age—to put in a 10½ hour day, and to work full week-end, with one evening off during the week and one of the week-end afternoons.

At 5 p.m. this document was delivered by hand. At 8 p.m., in a telephone call from the Home Office, permission was given for partial suspension of the Factory Act to allow the proposals to be put into force.

Office juniors were released to join in cording. Most staff members volunteered to put in several hours each evening, and to work over the week-end on the job. On Wednesday 50,000 cartons were ready as promised. On the Thursday, production equalled the minimum promised (30,000) and the maximum (50,000) added together—over 80,000.

That was 130,000 at three days' notice. By the end of the week well over 250,000 had been completed.

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How To Get The Speed

WELL that gives some idea of the speed with which industry will have to hitch up to special production if war *does* come.

We outline Boxfoldia's activities because we got the full story. But other Birmingham carton makers were also busy on that rush order to meet the A.R.P. demand.

Give a thought to the fact that practically the whole of Britain's industry may have suddenly to turn over to special work and it will be realized that preparations *now* are urgently needed.

By following through what Boxfoldia had to do to get started on the special order, the average business man will see where at least some preparations can be started.

For instance, are your "key" people on the telephone? Do they notify the firm if they will be absent from home during the week-end? Have you any plan whereby members of the staff can be summoned or collected? Have you an understanding with suppliers of vital materials? Have you proper stocks of materials likely to be needed? What about substitutes? Is your plant organized in such a way as to be quickly usable for special work?

Nothing hard and fast can be suggested here in regard to these points because every individual business is different. But they are points to consider seriously; and they in turn will probably raise other points which business men will realize are peculiar to their own circumstances.

Such matters as these, of course, are additional to any big-scale arrangements or line-up of industry that may be made officially by government authorities. They are the common-sense plans which it is the duty for every individual manufacturer to consider, at least while world conditions remain as they are.

[*Also read the Leading Article, published on Page* 7.—ED.]

●

Don't Take Suppliers for Granted

This Firm Broke the Habit, and so Saved Money

WITH all the alertness which most firms exercise in the matter of keeping eyes open for the best and most appropriate markets in which to buy equipment, there is still danger of a tendency to take suppliers too much for granted.

A director of a small firm told us last month how he saved about £275 on one piece of equipment by going out of the generally accepted market.

This man wanted a certain type of drying chamber. He found that prices from regular suppliers ranged between £350 and £400, so he asked a small local firm of engineers if they could make what he wanted, and, if so, at what price.

The local firm said they could make it and the price would be £75.

In a few days the locally made unit was installed. It was, perhaps, minus a bit of chromium finish and so forth, but it functioned perfectly.

Now to the big firm a quotation of £350 or £400 for a unit would probably not have been questioned. That was the regular price level from the normal suppliers of such equipment. Any discussion would simply be to decide what figure between the £350 and the £400 should be spent.

We cannot here suggest that firms make new rules or regulations about their buying, but we do suggest the wisdom of avoiding to take apparently "natural and logical" suppliers too much for granted. There must be many times when big economies can be made by exercising a little ingenuity and trying "out of the ordinary" sources of supply.

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Danger Point for Growing Businesses

"IN the growth of many businesses," remarked a widely experienced executive recently, "there comes what I call a 'danger point.' It occurs at the time when businesses, hitherto under the sole direction of one man, or almost wholly under one man, develop into a stage where the delegation of authority becomes necessary.

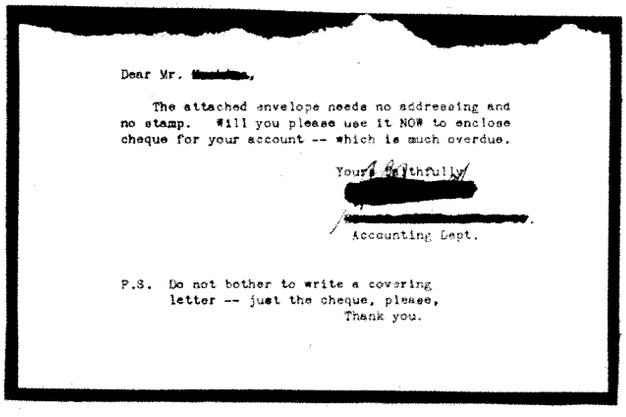
"At this point it is seldom realized that an entirely different technique in both management and routine is necessary. What nearly always happens is that the outgrown policies and methods of the one-man business are unwittingly clung to. The result is that the organization remains hampered in dozens of little ways. It has about as much freedom for progress as a growing young man would have if he remained buttoned up in one of his school-days overcoats.

"I have no vested interest whatever in outside consultants, but to my mind, every business that reaches this point should call in a reputable consultant.

"The outsider has the enormous advantage of being free from the tradition of those time-honoured, early policies and methods. He is free to see the possibilities ahead and to make plans for achieving them. He can see how to get the business over that danger point. Once that is done the whole staff can stretch its limbs and get down to real progress.

"Very few managers, especially those who have grown up with the business, can themselves carry out the rather drastic changes that are often necessary."

Letter Pulls its Weight—*In Cash*



Dear Mr. [redacted],

The attached envelope needs no addressing and no stamp. Will you please use it NOW to enclose cheque for your account -- which is much overdue.

Yours faithfully,
[redacted]
Accounting Dept.

P.S. Do not bother to write a covering letter -- just the cheque, please,
Thank you.

THE firm using this collection letter tells us it is one of their most effective shots. Note the points about it:

1. Addressed personally to the individual (this is very carefully matched in; the letter itself is mass-produced).

2. Very short, to the point, yet not officious.

3. Free from moth-eaten phraseology —"*We beg to remind you . . .*," and that sort of stuff.

4. Signed by hand, not rubber stamped or stencilled.

5. P.S. removes fear from the customer's mind that he will appear impolite if he does not also write a letter. Customer often puts off the job because he does not like the letter-writing part of it.

The envelope referred to is of course the usual business reply envelope. A copy statement is enclosed to show the amount—for cheque-writing. The shot is timed to reach the addressee by post on Saturday mornings. This gives the opportunities of the week-end for filling in the cheque.

Revolution *'in camera'*

Created Low-Price Mass Sales in Market

Built Up by *Luxury Industry*

By JOSEPH TERRETT

Managing Director, Purma Cameras, Ltd.

MORE than one Australian backwoodsman, bitten by a poisonous snake, has chopped off with his axe an infected finger or has had to take some equally drastic action to save his life. It is only those men who, in such a "tough" position, act swiftly and ruthlessly that survive.

Ruthless Changes to Reconstruct The Product

This somewhat colourful picture is an analogy with the position in which Purma Cameras, Ltd. found themselves about a year ago. And it is because we acted with similar desperate, swift and ruthless courage that we are able to-day to point to, roughly, a tenfold increase in sales and a prospect of steady expansion.

Faced with vanishing sales of what originally we thought to be a good, marketable product, what were our actions? These: we stopped production; re-designed the camera; carried out technical alterations and adjustments; put up the price by more than 40 per cent; went again into the market with a revised sales plan.

That is a summary of our work. Now let me explain in detail what happened and what has been done.

The first Purma camera was put on the market in 1936. It had a focal plane shutter working on an entirely new principle. It was, in this sense, a revolutionary product. The aim of the directors was to capture the market where people, with a limited amount of money to spend, wanted a reliable, high-speed camera capable of taking action pictures.

Now the idea was excellent but we admit that the product was not quite good enough for the purpose. It sold at 35s. retail and at that price was first-rate value for money. But there were certain handicaps to progress: (*a*) cost of production was too high; (*b*) setting of the focal-plane shutter was too involved; (*c*) the lens fitted was not quite good enough for the shutter speed of 1/200th of a second; (*d*) design of the camera was not satisfactory and many unnecessary manufacturing costs were involved in its production. Basically, the trouble was the camera *did not do the job it was supposed to do for the public.*

When I joined the company and assumed active control it seemed to me that these several unfavourable factors were so serious as to demand instant, unhesitating and drastic action. Production was immediately stopped. The next three months were given to detailed study and planning of the new camera.

One of the initial jobs was to get Raymond Loewy, the well-known American industrial designer, to re-design the camera. This was essential from several points of view. The original design was somewhat bulky; the camera had a complication of gadgets which made handling more difficult than was necessary and detracted from appearance. The aim in the new design was to reduce the camera to its simplest form commensurate with easy, efficient operation. Moreover, the camera had to *look* simple to use.

The result of co-operation between Mr. Loewy and ourselves was the streamlined design of to-day's *Purma Special* (see illustration). The design was not, of course, arbitrary. It was worked out in consultation with our technical staff. The film winder, shutter release and viewfinder, for example, were incorporated in the case. In the old model they had all protruded from the top side. Again, these parts, both sides and the lens holder were chromium plated; in the new model they were all phenolic moulded jobs.

Frills Cut Out, but Quality Put into Essentials

There was practical as well as æsthetic value in such design. For instance, by setting the shutter release in a special recess we eliminated chance of the shutter being released accidentally. Indeed, it is a tribute to the design as a whole that in a monthly competition organized by the magazine *Plastics* the camera won first prize for design.

Basic idea of this newly designed camera is to give, at a low price, the 'quality' results and quick handling WITHOUT the costly material and fitments of the expensive miniature camera.

●

Lower picture shows Purma camera as it first attempted to fill this role. But simplification was not carried far enough, so it was redesigned, see top illustration.

●

Now it is a simple, error-proof camera giving a high degree of accuracy. By reason of design, results and price it is capturing the popular market through the vogue created by its expensive prototype.

Meanwhile we went into the vital problem of getting a suitable lens. As I have already explained, the previous lens was not good enough for a shutter speed of 1/200th of a second. To find the product we wanted we went to English, American and German manufacturers. After exhaustive study and tests we decided on the Bec. f. 6.3 lens, suitable for work at the maximum shutter speed which had been raised on the new model to 1/450th of a second.

Now the new lens cost about *5 times as much* as the old. But we considered this big increase in cost well worth while; the money was spent on a vital part of the product. No matter how excellent the camera appeared to be

unless it did the job expected by the public we would fail.

In simplifying the camera in design and production we were able to cut costs. But that saving effected meant an *improvement* in the product, an important marketing point. Where, however, we had to spend more money to make a necessary improvement, as in the lens, we did so. There you have, summed up, the policy which has guided our actions throughout.

When not in use the lens is capped. When this screw cap is removed the lens extend automatically to give universal focus from 10 feet to infinity. The shutter is wound by sliding a knob round with the forefinger of the right hand, sight is taken through the in-built peepsight, and the forefinger of the left hand releases the shutter. Shutter speeds are changed not by hand-setting devices, but automatically by the position in which the camera is held. Camera held horizontally gives 1/150th of a second; held one way vertically, 1/25th; and held in the opposite vertical position, 1/450th of a second.

With all design and production work complete we were now ready to restart, to get on with the job of selling at the higher price.

Improvements More Than Justified Price Increase

You may think we took a risk in adding 15s. to our old price, but an examination of all the factors involved will show this not to be the case. The improvements we carried out more than justified the increase. We now had a camera which would do more than we claimed. In producing it, costs had increased, therefore the price had to be advanced, but the advance in quality and performance far outstripped, proportionately, that of price.

There were certain factors we were up against in the market. We had to get distribution through the trade; where we had sold before the shortcomings of our experimental model were against us. But most of all we had to overcome suspicion about low priced miniatures. Even with our increase from 35s. to 50s. we were still in the "cheap" market.

In studying this problem we concluded that the only sound way to build business was first to get the complete confidence of the trade in our product. This could not be done by ordinary advertising methods. If we had a big sum of money to spend on Press and periodical advertising we *might* have broken resistance by sheer volume or forced dealers to stock the cameras because of public demand. But for a small company to attempt such a venture was impracticable and waste of money.

First, the theme 'Photos taken by Amateurs' (with reproductions of actual snaps) was used in the publicity build-up; later, the 'unsolicited testimonial' angle was used. All advertising stressed simplicity, the fine quality of results and the price. Testimonials from authoritative *users are now being used to push home the initial campaign*

We Enabled Users to Test Our Claims

Our method, therefore, has been to demonstrate the camera. For example, I have made personal tours of leading dealers and stores in the country. On most of our first calls reception has been much the same: "Yes, we know all about these cheap miniature cameras; they're no good. We've tried them. Don't waste our time."

Examples of work done by Purmas were impressive but not enough to overcome this prejudice at first try. Nor was technical argument sufficient. We said, therefore: "Very well. We do not ask you to believe us or the proofs we produce but be fair enough to test the truth of what we say. Keep one of these cameras and use it for a while and then let us know what you think!"

We often paid for film, development and printing of these "experiments." That policy paid us. In every instance where we got the camera tested, we opened accounts.

In addition to these calls we arranged demonstrations to the public. In departmental stores and other big shops we set up stands and had a demonstrator in attendance. In these displays our aim has been to show how the ordinary man or woman can take anything from a posed to an action picture without the least trouble. All the big photographs put on display are, for instance, enlargements of snaps made by amateurs. The chief work of demonstrators is to show each inquirer just how simple the Purma is to operate.

We have, of course, pushed sales in other ways. A small advertising campaign has backed our efforts. We used moderate spaces in *Weekly Illustrated, British Journal of Photography, Amateur Photographer, Passing Show, Men Only,* etc. All advertisements have carried an illustration of a photograph taken by an ordinary amateur. Stress has been laid always on the ease with which the camera can be handled, the opportunities it offers for getting real action pictures. More recently, we adopted testimonial advertising. Here we put to use unsolicited letters received from users (see illustration).

Policy of 'Understatement' Created Goodwill

We also ran a competition during the winter to stimulate interest and sales in the "slack" season. The competition was successful, about a sixth of Purma users entering.

Another useful means of stimulating

(*Continued on page* 34)

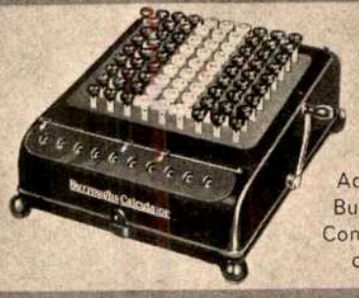
For the Executive Desk

The 'Teleflexo' combines a 'Flexo' any-angle light arm and directional reflector with a special base to accommodate your telephone. Note handy press-button switch in front. Product of Harcourts Ltd., can be obtained at any good electrical showroom

THE EARLIEST BURROUGHS

The "Box Type" of 1911

THE FIRST BIG IMPROVEMENT



Advanced Burroughs Construction of 1915

THE FIRST ELECTRIC

Introduced by Burroughs in 1928

THE FIRST DUPLEX

Introduced by Burroughs in 1933

Burroughs LEADS in Adding-Calculating Machine Development

For a quarter of a century, Burroughs has led in developing new machines and features to make adding and calculating easier, simpler, faster.

Burroughs discarded the "box type" design many years ago in favour of a more compact, more efficient construction. Only half as many machine parts are required; operation is easier and faster.

The first *electric* key-actuated adding-calculator was designed by Burroughs—to lessen operator fatigue, to permit faster operation and provide an electric safeguard for accuracy. All key strokes are uniform; full registration of each key value is electrically enforced.

Burroughs developed the electric *duplex* adding-calculator—a remarkable time-saver which accumulates any number of group totals and a grand total, eliminating the separate operation of recapitulating. Its operation, including transferring and clearing of amounts, is completely electric.

To these major achievements in adding-calculating machines, Burroughs has now added two more remarkable developments:

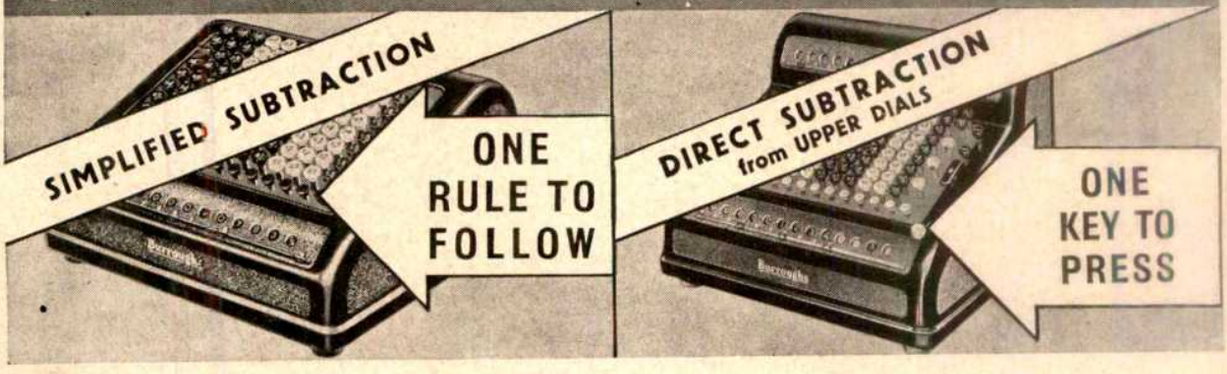
(1) *Simplified Subtraction* — the fastest, simplest method of complementary subtraction on any key-actuated adding-calculating machine.

(2) *Direct Subtraction* from the upper dials of the Duplex Adding-Calculator, without the use of complementary figures.

For a demonstration of the Burroughs Adding-Calculator best suited for your work, telephone the nearest Burroughs Office or write direct to

BURROUGHS ADDING MACHINE LTD.
136 REGENT STREET, LONDON, W.1

NOW—TWO NEW MACHINES . . . NEW ADVANCED FEATURES



IDEAS that are Building Sales . .

Left: This cinema foyer display made 'plus' sales for retailer and manufacturer. See story below

Below right: Point of sale push sold out stock in dullest month. Can be done, too, in after-Xmas 'slump' or any other off season. See story on 'Sales Doldrums', below

Find and Use Your "Live" Retailers

TO-DAY not only must the retail account be "alive" but the retailer himself must be "alive," too. Most manufacturers try to select their retail dealers on this standard.

A good example of this modern type of retailer comes from Lowestoft. Hearing that the film, "Snow White and the Seven Dwarfs," was appearing at a local cinema, R. J. Pryce & Co., ironmongers, arranged to take space in the cinema foyer. Here they made a display of a wringing machine (see illustration). The show resulted in substantial sales.

Any manufacturer with retailers of this type on his books is ignoring good material unless he gives full support and encouragement to their enterprise. If, on his own account, a retailer will make this sort of drive for business, he will certainly welcome and seize upon ideas, suggestions and help from manufacturers. It is up to manufacturers to evolve some suggestions.

Trade Wind for Sales Doldrums

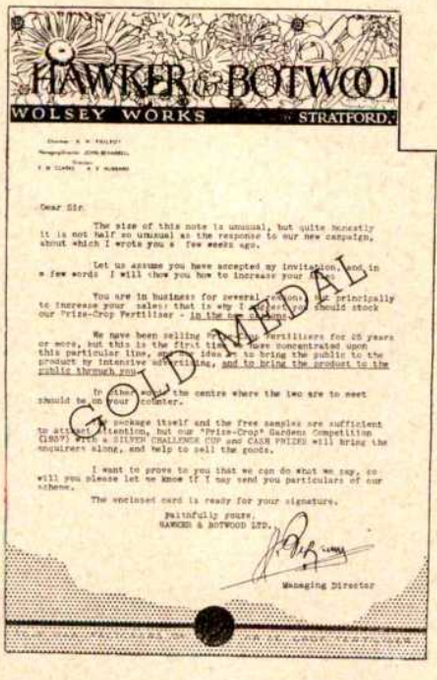
IT pays manufacturers to fight "trade doldrums" by co-operating with retailers to push goods at times of seasonal quietness or during the "out" season for the products concerned. Methods behind such policy include special window displays, ideas and suggestions for local sales schemes, competitions, etc., extra advertising, and so on.

One method that has been very effective is that of continuous advertising at the point of sale. A good example of this is quoted in *Masseeley Users' Magazine*. An Essex retail ironmonger, who produces his own showcards, tickets and other point of sale display material, killed the "August bogy" this year. By special window displays, built with materials produced on his machine, this retailer attracted a big volume of business. Indeed, through his displays of aluminium and garden goods there was such a rush of business that eventually he had to dismantle the display to cope with the demand. In the "dead month" of August he had to sell out of the window.

Many manufacturers could adopt the idea behind this success. They could, for example, produce a special range of window display materials for use over the dull period which follows the heavy Christmas trade. It is not necessary that a scheme shall be new or even given a new twist. If that can be done, so much the better. But the main need is to *make the effort*, to push hard for sales at a time when they usually decline. It can be and is done successfully.

London Sales Letter Wins American Gold Medal

Below: The original was an "outsize" letter; it measured about 36 by 22 inches. Of 1,750 new prospects to whom it was mailed 262 became customers: An extraordinarily good pull, 15 per cent new business.


HAWKER & BOTWOOD
WOLSEY WORKS STRATFORD,

Dear Sir,

The size of this note is unusual, but quite honestly it is not half so unusual as the response to our new campaign, about which I wrote you a few weeks ago.

Let us assume you have accepted my invitation, and in a few words I will show you how to increase your [illegible]

You are in business for several reasons, but principally to increase your sales; that is why I feel you should stock our 'Prize-Crop' Fertiliser - in the [illegible] packing.

We have been selling [illegible] Fertilisers for 25 years or more, but this is the first time we have concentrated upon this particular line, and the idea is to bring the public to the product by intensive advertising, and to bring the product to the public through you.

In other words, the centre where the two are to meet should be on your counter.

GOLD MEDAL

The package itself and the free samples are sufficient to attract attention, but our 'Prize-Crop' Garden Competition (1937) with a SILVER CHALLENGE CUP and CASH PRIZES will bring the enquirers along, and help to sell the goods.

I want to prove to you that we can do what we say, so will you please let me know if I may send you particulars of our scheme.

The enclosed card is ready for your signature.

Faithfully yours,
HAWKER & BOTWOOD LTD.

Managing Director

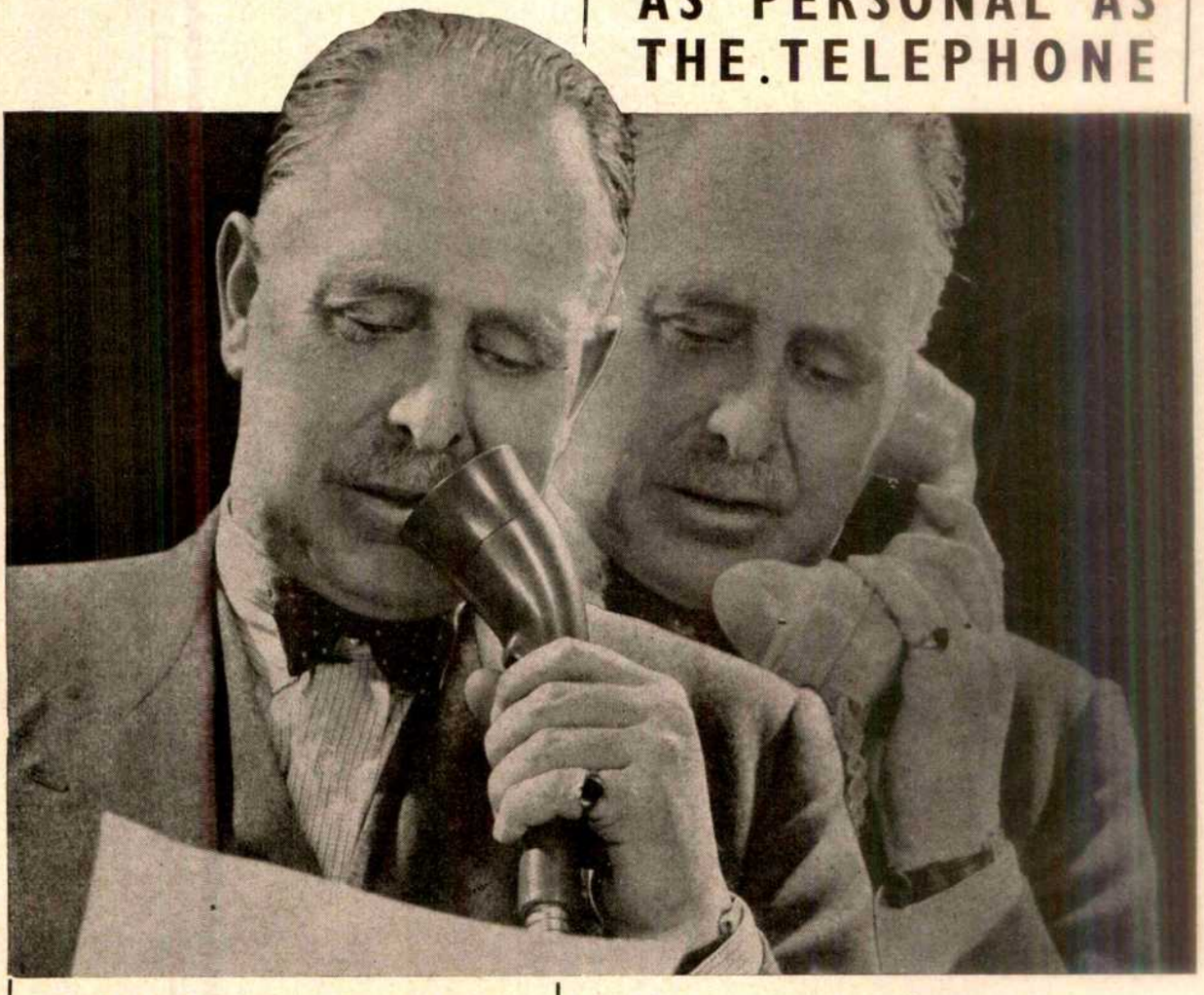
As part of a scheme to improve business letters The Dartnell Corporation of Chicago annually selects the most outstanding specimens of the year from some ten thousand business letters submitted for criticism from business executives in America and all over the world. The letter (*left*) written by Mr. John Beharrell to the design and size planned by artist R. Breslin took one of this year's highest awards.

New Art Show-card Made on the Spot

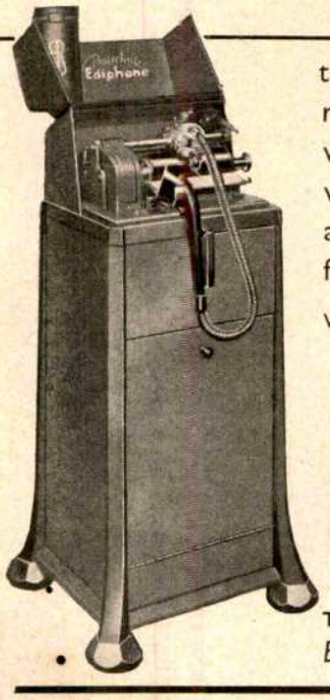
A SHOW-CARD which is waterproof, grease-proof, scratch-proof and almost indestructible can now be produced on the Masseeley machine by using the hot process. The colours reproduced are brilliant—and stay that way.

Reproduced by this method, the showcards will not crack, bend or crease. The surface is glass-brilliant and can be washed without harm to the reproduction or the colours. Cost is low.

AS PERSONAL AS THE TELEPHONE



—AND AS SIMPLE TO USE....



Ediphone Voice-Writing enables you to dictate letters to your clients without the distraction of an intermediary—just as though speaking to them over the telephone. You dictate as rapidly or as slowly as your thoughts occur to you, and you deal with every matter the moment you are ready for it, without waiting for your secretary. Your correspondence gains in clarity and style, you save valuable time, and the whole office benefits from a smoother flow of work. You need Ediphone Voice-Writing.

WRITE FOR FULL PARTICULARS OR FREE DEMONSTRATION AT YOUR DESK

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BRANCHES & DEALERS IN ALL PRINCIPAL CITIES

Derbyshire 'Mountain' Route

Tests Out This Big 8-Wheel 16-Tonner

Road Test No. 11

The A.E.C. MAMMOTH-MAJOR

By

RICHARD TWELVETREES,

A.M.I.Mech.E.

IN view of the tremendous volumes of goods comprising *indivisible loads* carried over the roads of Great Britain every year, I think the present series of road test articles should certainly include reference to the performance of a typical eight-wheeler capable of carrying 16-ton pay-loads legally.

With the co-operation of the Associated Equipment Co., Ltd.—builders of London's buses, I tested one of their latest Mammoth-Major eight-wheelers and, in order to obtain first-hand information as to its performance over a really arduous trunk route, arranged for the trials to take place in the Peak District of Derbyshire.

Only Long Distance Can Test This Big Vehicle

When you run a vehicle of this kind over normal routes there is some difficulty in appreciating its full value and while the A.E.C. eight-wheeler can be handled quite easily in the thickest traffic, it is essentially a trunk road haulage job and shows up to the greatest advantage mechanically and economically on long journeys. Hence the choice of Derbyshire as the testing ground.

The machine submitted for the BUSINESS Test was a standard A.E.C. Mammoth-Major equipped with the A.E.C. Ricardo six-cylinder 7.7 litre oil-engine and the auxiliary gear-box now included in the ordinary specification which, used in conjunction with the main gear-box, provides an "over-speed" fifth gear.

For test purposes the vehicle was submitted in chassis form and carried weights representing a full 16-ton pay-load, plus a weight allowance for the cab and platform bodywork.

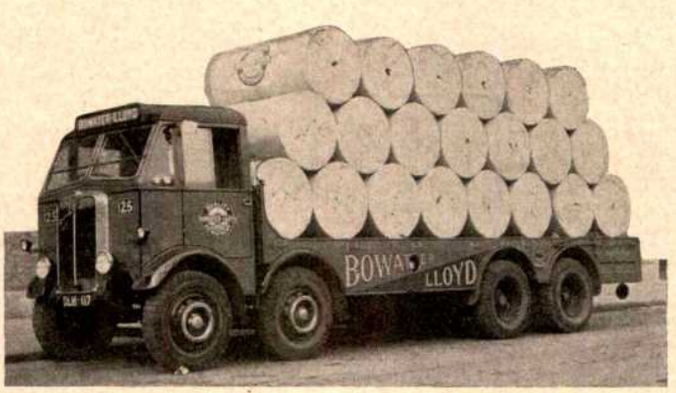
Having mapped out a 60 miles' route in mountainous country, we set off from Buxton to make a non-stop test run, partly to obtain a representative fuel consumption and also to impose conditions approximating to those of normal trunk road haulage.

Very Light On All The Controls

For a vehicle of its size, the Mammoth-Major proved remarkably convenient to handle, thanks to the ready acceleration of the six-cylinder engine, the light clutch and easy gear change. Though light and sensitive to a degree, the steering differs from those of smaller vehicles in that its gear ratio is very low, so that more turns are needed at the wheel when sharp corners are negotiated.

For the first few miles we made good progress at maximum legal speed along the winding road through Ashwood Dale, where the "over-speed" gear was employed to maintain a good rate of travel while the engine ran quietly at an economical speed without showing the slightest hesitation in hauling the 16-ton load.

The gross weight of the laden vehicle, by the way, was no less than 22 tons, a figure that should be borne in mind when the performance figures quoted below are perused.



These big 8-Wheeler Mammoth-Majors have contributed substantially towards reduction of costs in the distribution of paper to the great national newspapers

Before proceeding very far, the Mammoth-Major gave evidence of its capacity for real hard work for, on leaving the Wye Valley a few miles south of Buxton, we began the ascent of Topley Pike to Taddington Moor, passing beneath Sough Top, 1,437 ft. above sea level, and in a distance of two miles climbed up to a height of 400 ft.

This is what transport drivers call "hard collar" work, but the big machine was quite in its element here by virtue of an engine producing 100 b.h.p. at 2,000 r.p.m. and suitably graded gear ratios for hilly routes.

Brakes to Pull-up 22 Tons On Steep Grades

Satisfied with this early proof of hill-climbing performance I was next concerned with the matter of brakes, because it will be realized that exceptionally good equipment is essential for holding a 22 ton weight on long and steep hills.

The next three miles, however, afforded an excellent test for the brakes, the road descending some 800 ft. as it winds tortuously down into Bakewell.

In this, as in other models of their vehicle range, the A.E.C. designers have ensured ample safety by fitting drums of really generous dimensions and employing servo-assisted Lockheed brakes. In the case of the Mammoth-Major, the foot brake operates on the leading front and four rear wheels; while the hand brake, actuated by ratchet mechanism, works on the four rear wheels.

At no part of the descent did the brakes give rise to the least anxiety and no undue effort was required for their application.

Unless a big freighter possesses reasonably good

(*Continued on page* 46)

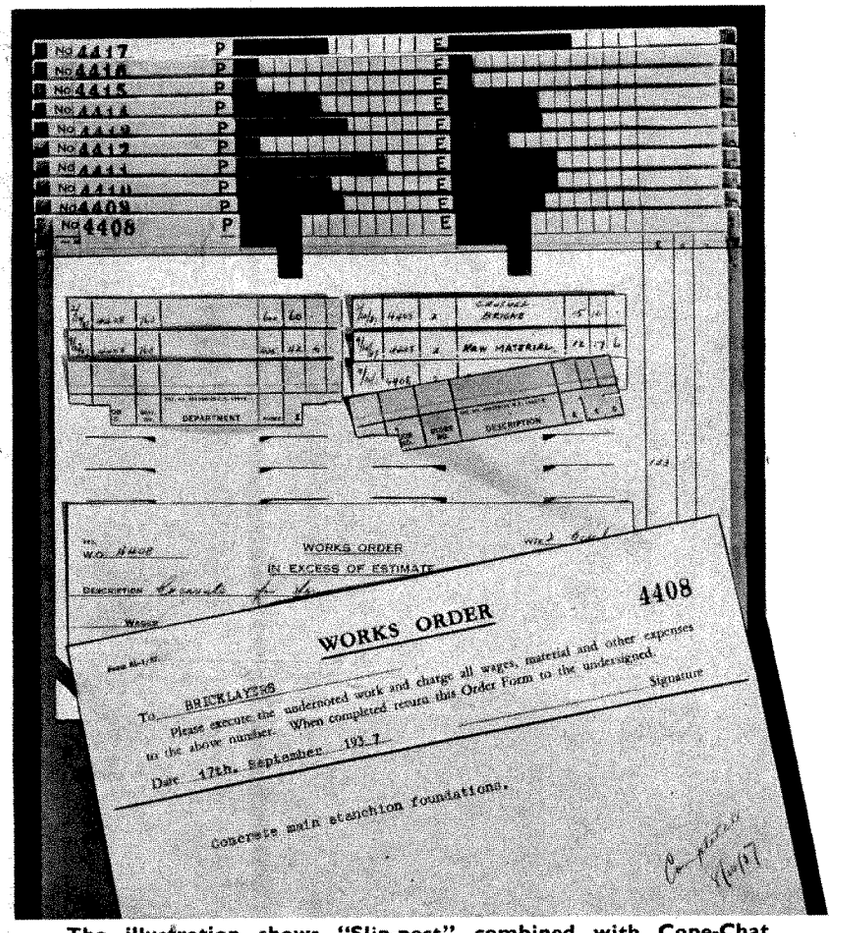
First—LOOSE LEAF
(Cope-Chat patented the first effective Loose Leaf Ledger)

Next "PARAMOUNT" HAND-OPERATED PUNCHED CARD SYSTEMS

THEN "SPEEDRAIL" THE HIGH SPEED MECHANICAL POSTING RAILWAY

and now—"SLIP-POST"

PROBABLY THE GREATEST DEVELOPMENT IN OFFICE PROCEDURE SINCE THE INTRODUCTION OF LOOSE LEAF



The illustration shows "Slip-post" combined with Cope-Chat Vertical Visible tc give "At-a-Glance" Works Programme Control

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1. Enormous reduction on Clerical Labour
2. Considerable savings in Time, Stationery and Money
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4. Costs little to install
5. Simple to work. Juniors understand it in a few minutes
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7. Suitable for large, medium and small organisations

and (last but not least)

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1 FIRM IN 1 YEAR SAVED 133,000,000 CLERICAL ENTRIES

YOU owe it to YOUR business at least to investigate the method, its simplicity and its benefits. Simply ask for "Booklet A47" which will be posted to you without delay or obligation.

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EXCHANGE HOUSE • OLD CHANGE • LONDON • E.C.4

Telephone: CITY 2284 (4 lines)

BRANCHES THROUGHOUT THE PROVINCES

This Accounting Method

Irons Out the Monthly Peak Loads and Saves Overtime

By

C. W. JOHNS

Secretary, Black & Decker, Ltd. Slough Trading Estate

IN conjunction with our auditors, recently, we discussed the whole question of office routine and its relation to the management of the business. We investigated various systems to see if we could increase office efficiency by mechanical means.

Our business is the manufacture of portable electric tools of many descriptions, and our aim in this investigation was a double one: to produce accurate key figures quickly enough to be of real use in the control of the business and to eliminate the peak load of work at the end of every month, consisting of the balancing of ledgers, preparing and sending out customers' statements, and agreeing the purchase ledger and factory cost accounts.

As is usually the case in organizations of this kind the amount of actual work under any one particular heading was not, in itself, large, and in several instances one clerk would, at certain times during the month, be engaged on different work.

Freeing the Higher Paid Office Staff from Routine

The essential purpose of the machine, therefore, was to handle all, or most of, the accounting work of a routine nature so that the higher paid office staff could be left free to perform more important duties.

One considerable difficulty which had to be overcome was that, ours being an international company doing business in all parts of the world, some records were kept in sterling and others in decimal currency. The selection of a machine, therefore, had to be made with some care.

After investigation the general utility accounting machine manufactured by the National Cash Register Company, Ltd., was finally installed to accomplish the following work:

Posting of Sales Ledgers with Customers' Statements.

Day Book copy of all entries in sterling and dollars, providing at the same time (for statistical purposes) the net sales to date for the year for each customer.

Posting the Purchase Ledger in sterling.

Posting control accounts for all ledgers, thereby giving a constant figure of Accounts Receivable and Payable.

Receipt writing and the simultaneous preparation of a posting copy, a Cash Book copy, and a Bank Paying-in slip.

Cheque writing with a supplementary Cash Book.

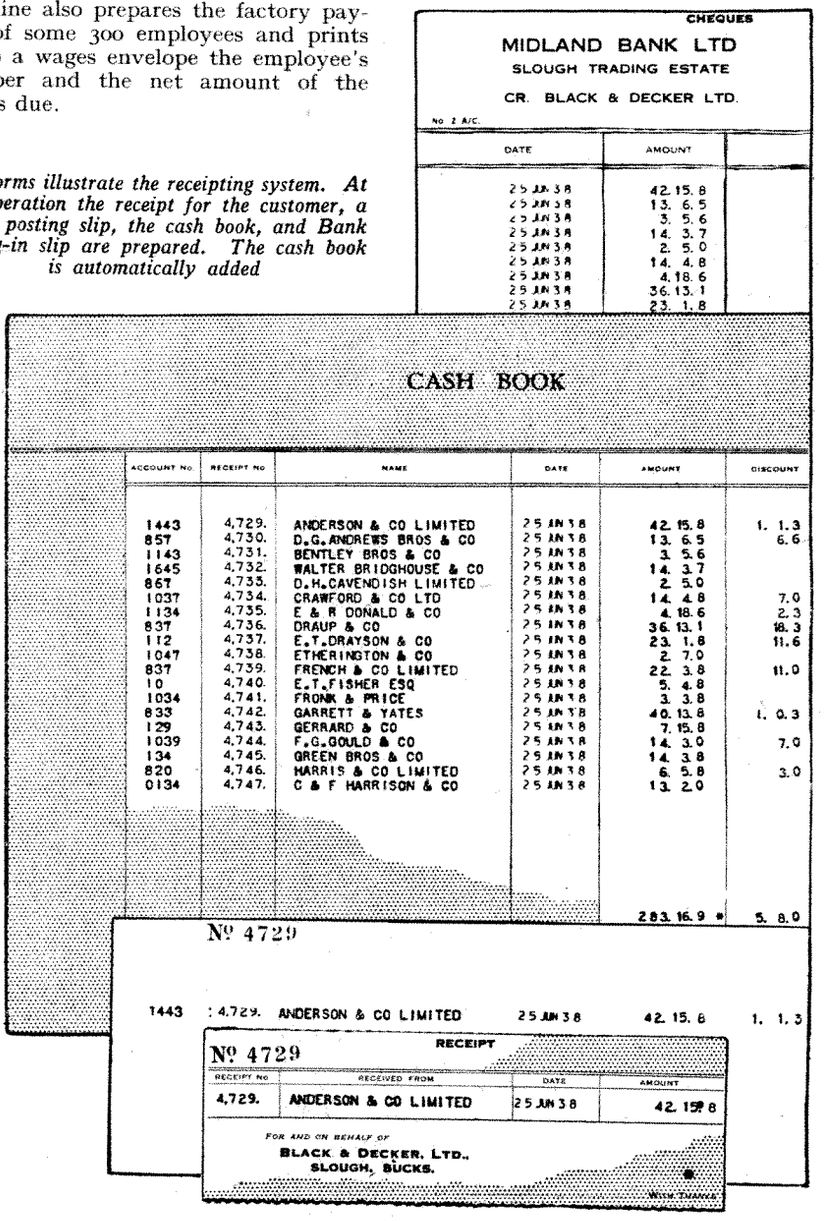
Posting to Cost Ledgers showing a daily balance under the various headings of Materials, Labour Charges and Oncost Charges, with total cost to date and a Works in Progress Control card on the same lines.

Preparation, at monthly intervals, of a Completed Jobs Schedule, giving a complete history of each finished job under headings of Materials, Labour Charges, Oncost Charges, Total, Estimated Cost of Production, Profit or Loss on each job and Profit over the factory as a whole.

For three hours every week the machine also prepares the factory payroll of some 300 employees and prints on to a wages envelope the employee's number and the net amount of the wages due.

It will be seen from this that all the routine office work, excluding invoicing, is accomplished on one machine with the following economies and advantages:

Ledgers are always balanced and, in the case of the Sales Ledger, customers'



CHEQUES

MIDLAND BANK LTD
SLOUGH TRADING ESTATE
CR. BLACK & DECKER LTD.
No 2 A/C.

DATE	AMOUNT
25 JUN 38	42. 15. 8
25 JUN 38	13. 6. 5
25 JUN 38	3. 5. 6
25 JUN 38	14. 3. 7
25 JUN 38	2. 5. 0
25 JUN 38	14. 4. 8
25 JUN 38	4. 18. 6
25 JUN 38	36. 13. 1
25 JUN 38	23. 1. 8

CASH BOOK

ACCOUNT No.	RECEIPT No	NAME	DATE	AMOUNT	DISCOUNT
1443	4,729.	ANDERSON & CO LIMITED	25 JUN 38	42. 15. 8	1. 1. 3
857	4,730.	D.G. ANDREWS BROS & CO	25 JUN 38	13. 6. 5	6. 6
1143	4,731.	BENTLEY BROS & CO	25 JUN 38	3. 5. 6	
1645	4,732.	WALTER BRIDGHOUSE & CO	25 JUN 38	14. 3. 7	
867	4,733.	D.H. CAVENDISH LIMITED	25 JUN 38	2. 5. 0	
1037	4,734.	CRAWFORD & CO LTD	25 JUN 38	14. 4. 8	7. 0
1134	4,735.	E & R DONALD & CO	25 JUN 38	4. 18. 6	2. 3
837	4,736.	DRAUP & CO	25 JUN 38	36. 13. 1	18. 3
112	4,737.	E.T. DRAYSON & CO	25 JUN 38	23. 1. 8	11. 6
1047	4,738.	ETHERINGTON & CO	25 JUN 38	2. 7. 0	
837	4,739.	FRENCH & CO LIMITED	25 JUN 38	22. 3. 8	11. 0
10	4,740.	E.T. FISHER ESQ	25 JUN 38	5. 4. 8	
1034	4,741.	FRONK & PRICE	25 JUN 38	3. 3. 8	
833	4,742.	GARRETT & YATES	25 JUN 38	40. 13. 8	1. 0. 3
129	4,743.	GERRARD & CO	25 JUN 38	7. 15. 8	
1039	4,744.	F.G. GOULD & CO	25 JUN 38	14. 3. 0	7. 0
134	4,745.	GREEN BROS & CO	25 JUN 38	14. 3. 8	
820	4,746.	HARRIS & CO LIMITED	25 JUN 38	6. 5. 8	3. 0
0134	4,747.	C & F HARRISON & CO	25 JUN 38	13. 2. 0	
				283. 16. 9	5. 8. 0

Nº 4729

1443 : 4,729. ANDERSON & CO LIMITED 25 JUN 38 42. 15. 8 1. 1. 3

RECEIPT
Nº 4729

RECEIPT No.	RECEIVED FROM	DATE	AMOUNT
4,729.	ANDERSON & CO LIMITED	25 JUN 38	42. 15. 8

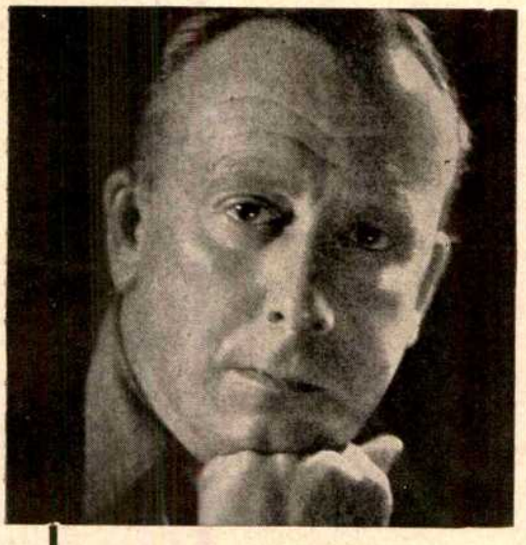
FOR AND ON BEHALF OF
BLACK & DECKER, LTD.,
SLOUGH, BUCKS.

The forms illustrate the receipting system. At one operation the receipt for the customer, a ledger posting slip, the cash book, and Bank paying-in slip are prepared. The cash book is automatically added

S.P.B. Mais

SERIES No. 3

speaking . . .



"SINCE YOU WERE A BOY

"I don't care how young you are, the changes since you were a boy are probably more than you can keep up with. Have you a television set? Do you fly your own aeroplane? Is your bathroom air-conditioned? Do your suit-cases expand? Is your wrist-watch dust-proof? Are your pyjamas zip-fastened? Can you see through your fountain-pen? Are your glasses unbreakable? Every day some new device is patented to relieve man of one more discomfort, to take from his shoulders one more burden, to increase his efficiency, and to save his energy.

"No one expects you to keep up with all the newest appliances for saving labour, but you may have missed the best of them in the crowd.

"Or are you already using the Remington Electric Accounting Machines?

"If not you're missing an invention which ought to be as much part and parcel of your office as the telephone —an indispensable eliminator of error, and quite incalculable saver of time and money."

S. P. B. Mais

A SINGLE MACHINE CAN BE APPLIED TO ONE OR MORE OF THE FOLLOWING OPERATIONS

Invoicing	Payments
Receipts	Wages
Analysis	Costing
Adding and Listing	Hire Purchase
Ledger Posting	Registrar's Department
Statements	Work

NO OTHER MACHINE, AT ANY PRICE, GIVES YOU ALL THESE FEATURES

- 1. Complete electrification of all alphabet and numeral keys, and of carriage return.
- 2. Complete flexibility of registers, providing extra accumulations without rebuilding or making machine obsolete. Number of additional registers limited only by length of carriage and capacity of registers.
- 3. All registers visible for columnar accumulation and cross computation. All registers equipped with direct subtraction, providing contra-entries within specific column, and instant correction of errors.
- 4. Automatic tabulation and interchangeable form bars.
- 5. Complete visibility of writing line, permitting instant checking of every entry posted.
- 6. Automatic line proof of each individual entry provides instant audit.
- 7. Independent control of each related form to be prepared simultaneously.
- 8. Uniform legibility of all records entered simultaneously.
- 9. Automatic locks against mis-operation.

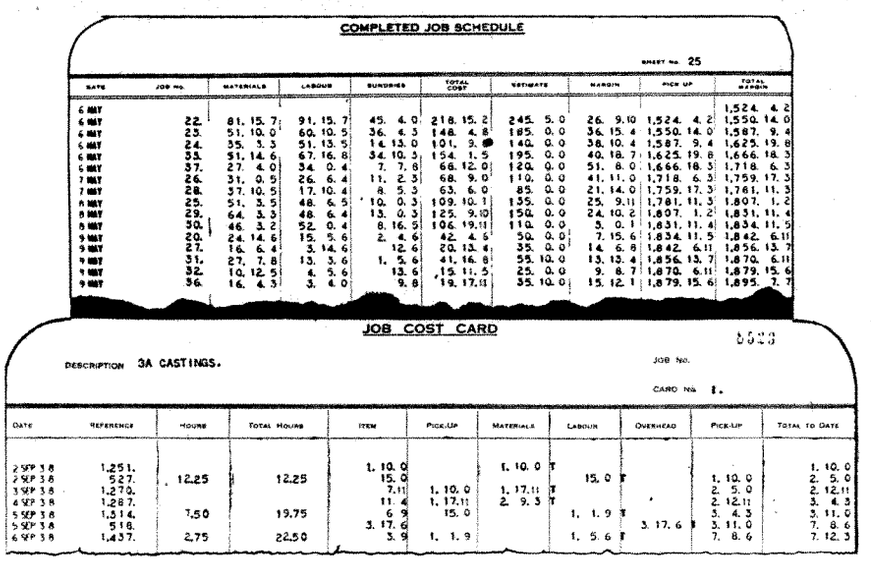
Write for full details to Dept. J.J. 564. Accounting & Adding Machine Div.

REMINGTON TYPEWRITER CO. LTD., 100 Gracechurch Street, London, E.C.3

BRANCHES IN ALL PRINCIPAL CITIES.

Phone: Mansion House 3333

REMINGTON
ACCOUNTING MACHINES



COMPLETED JOB SCHEDULE

SHEET No. 25

DATE	JOB No.	MATERIALS	LABOUR	SUNDRIES	TOTAL COST	ESTIMATE	MARGIN	PICK UP	TOTAL MARGIN
6 MAY									1,524. 4. 2
6 MAY	22.	81. 15. 7	91. 15. 7	45. 4. 0	218. 15. 2	245. 5. 0	26. 9.10	1,524. 4. 2	1,550. 14. 0
6 MAY	23.	51. 10. 0	60. 10. 5	36. 4. 5	148. 4. 8	185. 0. 0	36. 15. 4	1,550. 14. 0	1,587. 9. 4
6 MAY	24.	35. 3. 3	51. 13. 5	14. 13. 0	101. 9. 8	140. 0. 0	38. 10. 4	1,587. 9. 4	1,625. 19. 8
6 MAY	35.	91. 14. 6	67. 16. 8	34. 10. 3	194. 1. 5	195. 0. 0	40. 18. 7	1,625. 19. 8	1,666. 18. 3
6 MAY	37.	27. 4. 0	34. 0. 4	7. 7. 8	68. 12. 0	120. 0. 0	51. 8. 0	1,666. 18. 3	1,718. 6. 3
7 MAY	26.	31. 0. 5	26. 6. 4	11. 2. 3	68. 9. 0	110. 0. 0	41. 11. 0	1,718. 6. 3	1,759. 17. 3
7 MAY	28.	37. 10. 5	17. 10. 4	8. 5. 3	63. 6. 0	85. 0. 0	21. 14. 0	1,759. 17. 3	1,781. 11. 3
8 MAY	25.	51. 3. 5	48. 6. 5	10. 0. 3	109. 10. 1	135. 0. 0	25. 9.11	1,781. 11. 3	1,807. 1. 2
8 MAY	29.	64. 3. 3	48. 6. 4	13. 0. 3	125. 9.10	150. 0. 0	24. 10. 2	1,807. 1. 2	1,831. 11. 4
8 MAY	30.	46. 3. 2	52. 0. 4	8. 16. 5	106. 19.11	110. 0. 0	3. 0. 1	1,831. 11. 4	1,834. 11. 5
9 MAY	20.	24. 14. 6	15. 5. 6	2. 4. 6	42. 4. 6	50. 0. 0	7. 15. 6	1,834. 11. 5	1,842. 6.11
9 MAY	27.	16. 6. 4	3. 14. 6	12. 6	20. 13. 4	35. 0. 0	14. 6. 8	1,842. 6.11	1,856. 13. 7
9 MAY	31.	27. 7. 8	13. 3. 6	1. 5. 6	41. 16. 8	55. 10. 0	13. 13. 4	1,856. 13. 7	1,870. 6.11
9 MAY	32.	10. 12. 5	4. 5. 6	13. 6	15. 11. 5	25. 0. 0	9. 8. 7	1,870. 6.11	1,879. 15. 6
9 MAY	36.	16. 4. 3	3. 4. 0	9. 8	19. 17.11	35. 10. 0	15. 12. 1	1,879. 15. 6	1,895. 7. 7

JOB COST CARD

DESCRIPTION 3A CASTINGS. JOB No. 6528

CARD No. 1.

DATE	REFERENCE	HOURS	TOTAL HOURS	ITEM	PICK-UP	MATERIALS	LABOUR	OVERHEAD	PICK-UP	TOTAL TO DATE
2 SEP 38	1,251.			1. 10. 0		1. 10. 0 T				1. 10. 0
2 SEP 38	527.	12.25	12.25	15. 0			15. 0 T		1. 10. 0	2. 5. 0
3 SEP 38	1,270.			7.11	1. 10. 0	1. 17.11 T			2. 5. 0	2. 12.11
4 SEP 38	1,287.			11. 4	1. 17.11	2. 9. 3 T			2. 12.11	3. 4. 3
5 SEP 38	1,314.	7.50	19.75	6. 9	15. 0		1. 1. 9 T		5. 4. 3	3. 11. 0
5 SEP 38	518.			3. 17. 6				3. 17. 6 T	3. 11. 0	7. 8. 6
6 SEP 38	1,437.	2.75	22.50	3. 9	1. 1. 9		1. 5. 6 T		7. 8. 6	7. 12. 3

Top left : The cost records give the total cost at any time for each job, analysed under Materials, Labour, and Overheads. When the job is completed, these records are transferred to a completed job schedule and the cost automatically compared with the estimate

Lower left : The customer's monthly statement and Sales Ledger are posted simultaneously during the month. The Ledger provides a comprehensive record of the account including net sales to date, a most useful figure

statements may be mailed immediately the last posting for the month has been made.

The writing of Cash Books, both for receipts and for cheques, as a separate operation, has been eliminated.

Cost Accounts can be referred to daily in order to maintain a check on production costs. Previously this was impossible except at a balance period when, most probably, the information would be obtained too late to be of any use. The posting media used in the production of these Cost Accounts are Time Cards and Material Requisitions.

Mechanized Pay Roll Saves Time and Errors

The mechanized pay roll saves the time of a cashier in writing up by hand 300 names with particulars each week. Also—and this is important—errors and disputes have been eliminated because the amount on the envelope *must* agree with the payroll, as it is automatically produced by the machine.

The type of machine which accomplishes the above work is one with both typewriter and full accounting machine keyboards. The work done on it is completely visible at all times by the operator. All figure work is, of course, done from the adding keyboard. Receipt and cheque writing, and the names on the payroll, plus any notes required on the ledgers, are inserted by means of the typewriter keyboard.

We are very satisfied with this installation, having, in the first place, effected an economy by producing combined records instead of duplicating them, and in the second place having greatly increased the efficiency of the office as a whole and made it possible to obtain all control figures at will.

NAME ANDERSON & CO. LIMITED ACCOUNT No. 648

ADDRESS 77 ARCHWAY ROAD HIGHGATE N. SHEET No. 2.

DATE	ITEM	FOLIO	DEBIT	CREDIT	BALANCE	NETT SALES TO DATE	PICK-UP
1 APR 38	BAL.				24. 3. 8 *	132. 14. 7 *	
4 APR 38	GDS	667.	3. 3. 8		27. 7. 4 *	135. 18. 3 *	24. 3. 8
9 APR 38	CSH	1,022.		24. 0. 0			27. 7. 4
9 APR 38	DTS			3. 8	3. 3. 8 *		
16 APR 38	GDS	714.	7. 6. 9		10. 10. 5 *	167. 12. 4 *	3. 3. 8
3 MAY 38	GDS	787.	12. 2. 8		22. 13. 1 *	179. 15. 0 *	10. 10. 5
6 MAY 38	CSH	1,665.		15. 0. 0			22. 13. 1
6 MAY 38	DTS			6. 4	7. 6. 9 *		
14 MAY 38	GDS	854.	22. 4. 8		29. 11. 5 *	217. 6. 0 *	7. 6. 9
20 MAY 38	GDS	965.	26. 7. 6		55. 18.11 *	243. 13. 6 *	29. 11. 5
20 MAY 38	RTN	94.		2. 4. 8	53. 14. 3 *	241. 8.10 *	55. 18.11
1 JUL 38	GDS	1,214.	24. 12. 8		78. 6.11 *	266. 1. 6 *	53. 14. 3
2 JUL 38	RTN	425.		4. 12. 8	73. 14. 3 *	261. 8.10 *	78. 6.11
4 JUL 38	GDS	1,296.	18. 13. 8		92. 7.11 *	280. 2. 6 *	73. 14. 3
24 JUL 38	GDS	1,474.	37. 5. 4		129. 13. 3 *	317. 7.10 *	92. 7.11
24 JUL 38	CSH	2,141.		42. 15. 8			129. 13. 3
24 JUL 38	DTS			1. 1. 3	85. 16. 4 *		

STATEMENT

TELEPHONE: SLOUGH 204. TELEGRAMS & CABLES: BLACDECK SLOUGH

BLACK & DECKER, LTD.
SLOUGH, BUCKS

ANDERSON & CO. LTD.
77 ARCHWAY ROAD
HIGHGATE N.

DATE	ITEM	FOLIO	DEBIT	CREDIT	BALANCE
1 JUL 38	BAL.				53. 14. 3
1 JUL 38	GDS	1,214.	24. 12. 8		78. 6.11
2 JUL 38	RTN	425.		4. 12. 8	73. 14. 3
4 JUL 38	GDS	1,296.	18. 13. 8		92. 7.11
24 JUL 38	GDS	1,474.	37. 5. 4		129. 13. 3
24 JUL 38	CSH	2,141.		42. 15. 8	
24 JUL 38	DTS			1. 1. 3	85. 16. 4

Removes Stains from Documents, etc.

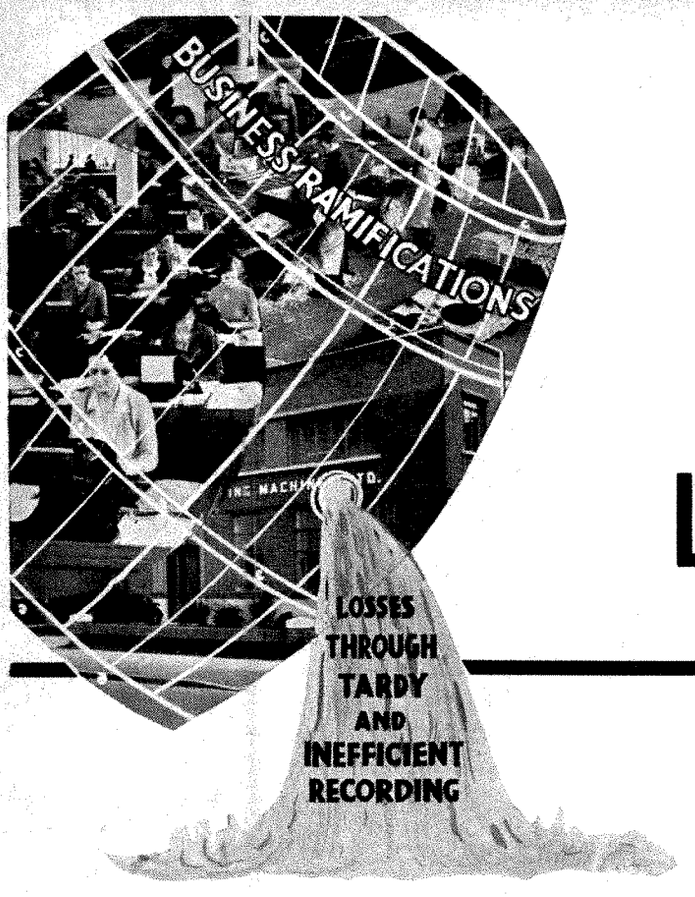
TO remove ink and other stains from office books, documents, papers, etc., as well as from dress fabrics, a new product has recently been put on the market.

This stain remover, known as "Deleto," is of particular service in all firms where ink records of any type are kept. Errors in entry, blots, smudges, and so on, which often confuse and make untidy bookkeeping pages, documents, etc., can be eliminated easily with "Deleto." One application of the fluid will cause any ink mark to disappear. It is just as effective on fabrics, such as women's frocks, men's suits, desk coverings, etc., as on paper.

The product is sold in bottles: 1s. 3d. and 2s. 6d. sizes. The large size (for office use) contains three times the amount of fluid held in the 1s. 3d. size. "Deleto" can be obtained from the makers, C.E.D. & Associates, 3 Bolt Court, Fleet Street, E.C.4.

SELECTING staff from their "face" value is a quicker and more accurate method than is normally used for picking out the most suitable employees.

How this new method is being developed, and what it can do, is discussed in the article on page 11.



PLUG UP *this* PROFIT LEAKAGE!

CAST your eye over your establishment. Over your warehouse or shipping department. Over your stock-control department. Over your billing office.

Each of these departments is active on its specific job in connection with the recording of detailed activities.

To-day more than ever before, you are faced with the problem of the expense necessitated by keeping routine-records of a duplicate nature relating to each stage in the completion of each order.

Carter-Davis Ltd., have evolved a system by which you can plug up this hole in your profits. This can be achieved to the extent of saving you at least 30 per cent on this one item of overhead cost.

The use of PRIMUS Continuous Forms enables all the repetitive records in connection with each production, billing and despatch job to be made AT ONE WRITING. By this method stenographers' time and effort is cut to a minimum. At least one hour in three is saved to each operator.

Think what this means. One third off your works records costs. One-third off your billing costs, off your despatch-record costs, and so on. In addition, the possibility of error is reduced to an absolute minimum because all records are automatically collated.

It will pay you to investigate this system. Call in one of our experts to show you its applicability in your own plant and administrative office.

Carter-Davis Ltd

QUEEN ELIZABETH ST · LONDON · S·E·1 *Telephone:* **HOP 0204/5/6**

BUSINESS EQUIPMENT REVIEW

Now you can Produce *Indestructible* Identification plates At Low Cost

By a 'BUSINESS' INVESTIGATOR

BUSINESS men everywhere are becoming rapidly more conscious of the many distinct advantages of being able to do their own printing on the spot by means of office printing machines under their own control. For similar advantages many firms now are installing their own equipment for embossing metal identification-plates.

Here you get a good idea of the compactness and simplicity of operation of the power-driven 'Graphotype'. The operator can sit in comfort at this machine and work without fatigue, especially if the type of adjustable chair shown in this illustration is used

Permanent Information Indented on Plates

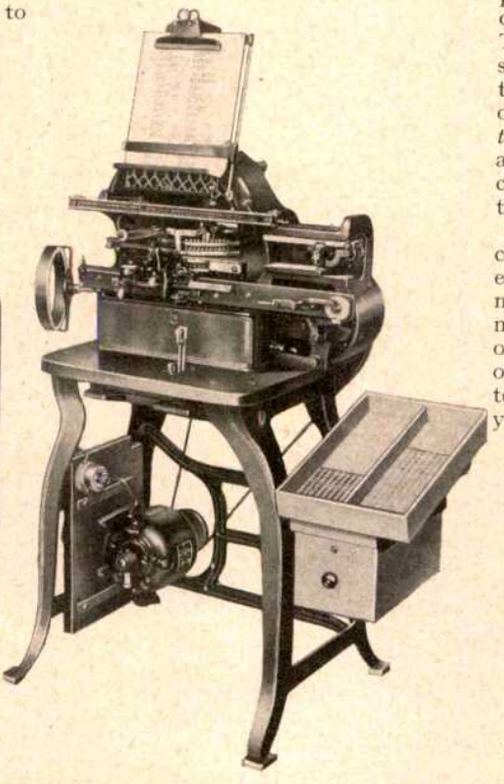
One of the best-known pieces of equipment available for this purpose is the "Graphotype" embossing machine marketed by Addressograph-Multigraph, Ltd. Whilst the popularly known use of the standard machine is for embossing address-plates used with the "Addressograph" addressing machine, there are models available which indent or emboss permanent information on metal name- or identification-plates.

A good example of the work performed by the indenting "Graphotype" is the dealer's name-plate, sometimes to be found on the facia board of a car. Another example is in the details indented on the metal label as used by S. Wolf & Co. (see illustration). The indenting machine is used in all cases where positive technical identification must be secured in indestructible form, particularly as on electrical products, switch terminals, electric motors, etc.

The same kind of "Graphotype" fitted with *reverse type* is also used for embossing metal and/or fibre labels for shipping purposes where a paper tag would be too fragile. (See illustration of two examples of this kind of embossed metal label.)

This shipping tag is typical of permanent embossing work done on the 'Graphotype'. Tags and plates of this kind can be quickly produced

Here, again, is an example (above) of a metal identification plate permanently embossed



Another illustration (right) of the power-driven model. Note the plate box on the right, holding blanks and embossed plates. It is set at a place and angle for quick and easy use of the operator

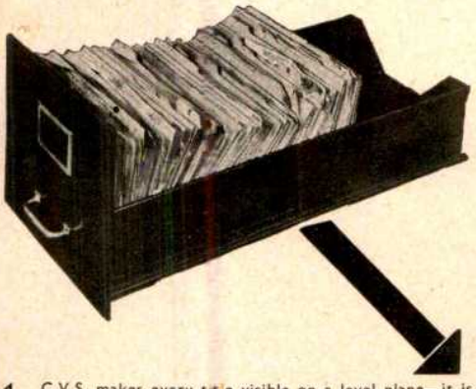
Any Type of Tag or Plate Identification

The embossed metal shipping tag is particularly useful where it is difficult or impracticable to send goods in crates. This is the case, for instance, in the steel and heavy manufacturing industries when shipping bulky steel products. Some dairies use the *reverse type* model for embossing return addresses on metal plates for milk-cans. Poultry farmers use it to ensure the return of egg crates, etc.

There are, as you can understand, countless uses for the "Graphotype" in every firm, especially where there is a need to tighten up control over all movable materials, equipment and other property. If you have a problem of this nature, it would be worth while to find out how the machine could help you.

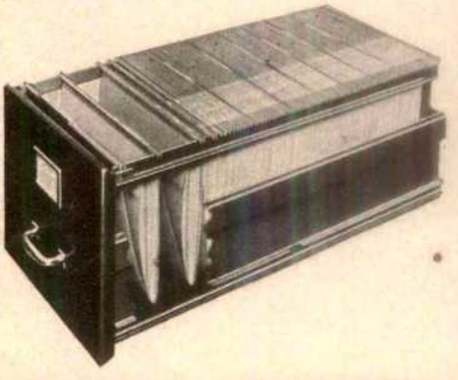
Wolf & Co. Ltd., manufacturers of certain types of electrical equipment, use this kind of indented name plate. The indenting is done on a 'Graphotype'

BLIND FILING *becomes* POSITIVE VISUAL CONTROL *via* C·V·S



EQUIPMENT

WITH A POSITIVE AND PERMANENT SUSPENDED POCKET FOR EACH FOLDER.
POCKETS CAN BE INSERTED OR REMOVED AS REQUIRED IN A FEW SECONDS.



1. C.V.S. makes every title visible on a level plane—it is just as easy to find a folder in the lowest drawer as in the top.
2. C.V.S. can be installed in any standard vertical filing cabinet, quarto or foolscap.
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5. C.V.S. pockets automatically adjust themselves to the bulk of their contents.
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7. C.V.S. visible coloured signals facilitate classification and coding.

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SEE, TEST AND COMPARE

your own office standards

Against This New Equipment.

At the Business Efficiency Exhibition - City Hall, Manchester, November 9th to 18th, inclusive

ONE of the great points about all specialized exhibitions is that they save a lot of time. They save time because they gather together the latest and best developments of a whole classification of products and array them together. In one place and at one time therefore the visitor, at his leisure, can examine, test and compare the entire range that is available anywhere on the market.

This facility for being able to examine, test and compare is especially valuable to the user of business equipment. At least once a year controlling executives should take the opportunity to do this.

A few years ago when specialized business equipment was confined to a few essential pieces of mechanism there was not this need for a survey to be made as often as once a year.

To-day, however, the position is very different. The range of appliances, systems and methods is so infinitely wide and so highly developed that every month, almost, brings some substantial improvement that offers new advantages and additional economies in some direction or other.

The Business Efficiency exhibition is held at this time of the year because it is the logical time for the average business man to check over the appliances and methods used in his own organization and to weigh up their capacity and effectiveness against any new and better equipment.

Use This Survey as Preliminary Guide

In the September issue of BUSINESS we published, in advance, a comprehensive survey of what will be displayed at the exhibition. That survey was designed to act as an equipment guide for the next twelve months.

It will, in fact, provide you with such a service by constituting a valuable and up-to-date reference. But right at this moment you can use it as a link with the exhibition. Look over our survey and note down the particular items you want to examine more closely.

In BUSINESS, of course, we are confined to text and pictures. We give you, in advance, "written" information; but we cannot show you the appliances actually at work or put them into your hands for practical examination and trial. The exhibition can do this. You can even take along your own problems and have them worked out before your own eyes.

For example, we described the newest dictating machines: at the exhibition you can sit down and try one. We described a colour control-chart, which gives a visible check on all activities of a business. You can go to City Hall and visualize the colour signals as representing your own departments.

The same with the whole range of accounting machinery, accounting systems, visible indexes, inter-department conveyors, and so on.

Take with you some of the forms and other printed matter used in your firm and ask the office printing machine exhibitors how you could save time and money by printing those items in your own office. Try an all-electric typewriter; let your secretary try one, and let her make fifteen carbon copies at one operation instead of doing the whole job twice or three times as quite likely she has to on her old machine.

Try out a new noiseless "portable." They are not only for secretaries and typists: the quiet, smooth mechanism will appeal to you personally.

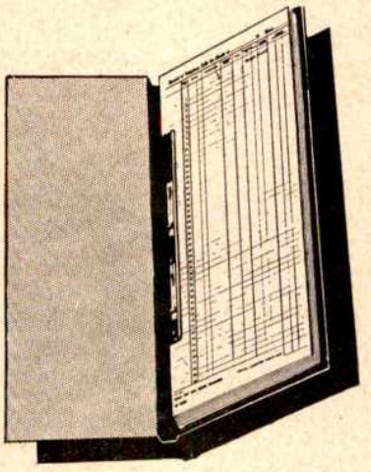
Look at the new all-electric time-recorders and consider their application to your works. See how continuous stationery saves an enormous amount of work and time on a wide variety of work.

If, in your business, you frequently need documents, plans and that sort of thing copied, there are the various photo-copying machines that can be operated by an office boy.

For the mailing department we described various postal franking machines; but to get a real idea of the time-saving quality of these appliances you want to see them at work, and especially to see the sealing and franking done on one machine.

The above references are of necessity brief. They by no means cover the range of exhibits you will find. They will all interest you; but, as we suggest, note down from our September survey those things you want to see first and most particularly.

Allocate Your Phone Expenses



One of the problems in many offices is to charge up the various departments with accurate phone costs. This record book is designed to facilitate the allocation of such charges. Room for recording 2,500 calls in each book. You can have a specimen leaf free, for trial. From Manifoldia Ltd., West Bromwich

---

He Reads His Time Card

TO make certain that an announcement directed to a selected group of workers is read by those for whom it is intended, one company fastens copies of the announcement to the employees' time cards.

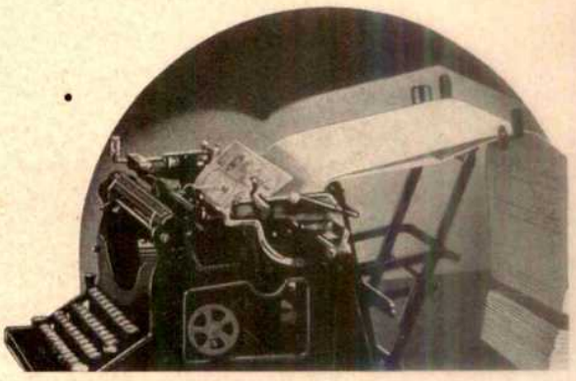
The cards are brought to the office where slips of paper bearing the message in mimeographed form are stapled to the time cards which then are returned to their racks. Although requiring but little additional time and effort, this method has been found more satisfactory than the posting of such announcements on the general bulletin board.

STAND No. 52

BUSINESS EFFICIENCY EXHIBITION
MANCHESTER

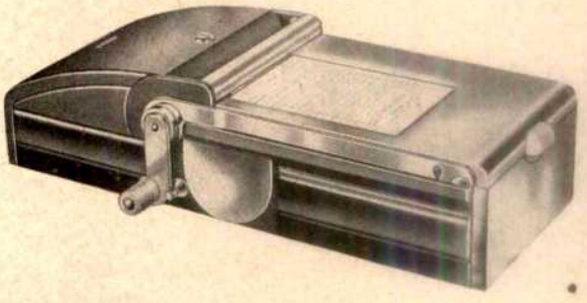
Fanfold Ltd. TRADE MARK

CONTINUOUS STATIONERY



Continuous Stationery enables you to eliminate the waste operations normally associated with the typing of Multiple Forms—interleaving of carbon paper, etc.—and reduces typing costs by 25 to 70 per cent.

It is worth noting that because Fanfold Limited make *all* types of continuous stationery they are in a position to render unbiased counsel and to advise as to which type of form is best suited for a particular need.



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AND BRANCHES.

Small Firms REORGANIZE *NOW*

(*Continued from page* 8)

think you could manufacture or what service you think you could give in connection with war work.

From this point the authorities will take the matter up and instruct you accordingly.

This settling in advance any possibility of your doing war work is a vitally important matter.

First of all it means that your small business, instead of being threatened with sudden extinction at the outbreak of hostilities, will be able to switch over to a new role.

Secondly, it means that you are making your contribution towards that smooth harnessing up of industry to war work which will be one of the deciding factors in the success or otherwise of Britain's meeting the next emergency.

This Is a Useful Form of Practice

With these things settled it will be a good thing to practise, *mentally*, the actual turning over to war work.

While still engaged in your peacetime manufacture, therefore, make it a hobby to visualize an emergency. This is not pessimism: it is preparedness.

For example, plan what you would do to replace your key men if they left you. Plan to break down certain operations so that women could take the place of men.

Study the sources of raw materials; make sure that you would not be let down here. Watch out for stocks; it may or may not be advisable to arrange for extra reserves. Look for any things that may make unusual calls for greater capital expenditure.

Take note of your staff. Record any particular aptitudes (over and above ordinary work) which any individual may have. Give them a lead as to

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Numbers (see Index, page 5).....

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From 6b softest, to 9h, hardest

what kind of training they should undertake.

Such plans could be typed out in documentary form and filed away for use if and when required.

It is too early yet to see just how the small business man will be affected by the freshly mooted Government scheme for arming factories and training staff in anti-aircraft gunnery.

It is probable that the small firm will not come within this scheme at all. Nevertheless, the small business man, if he does not actually join the forces, should personally interest himself in some aspect of national defence, for example, A.R.P. Preferably he should also qualify to train others, especially members of his staff.

While the foregoing is outlined mainly for the quite small business, even the somewhat larger concerns, firms that do not need to recapitalize, can with great advantage follow out all but the first recommendation. Self-preservation apart, it is a national duty to contribute towards the smooth gearing-up of industry to the possibility of national work.

But if the proprietor of the really small business will get down to these preparations he will be providing no less for the consolidation and expansion of his enterprise in peace-time than for its continuance in time of war. And over all he will be *ensuring his own peace of mind.*

●

Staff 'Select Themselves'

(*Continued from page* 12)

very sound indeed. I must confess it is a fresh angle to me.

The Editor: Then we get down to this, Mr. Penry: Looking at your system of staff selection from the managerial point of view, it seems to offer two outstanding advantages:

First and foremost the far higher degree of accuracy with which an employee can be fitted into a job which he is most capable of doing . . . or perhaps I had better put it the other way: the much greater accuracy with which any given job can be filled with an employee whose natural instincts and abilities are the highest possible for doing that job.

Mr. Penry: Yes, that is the way to put it.

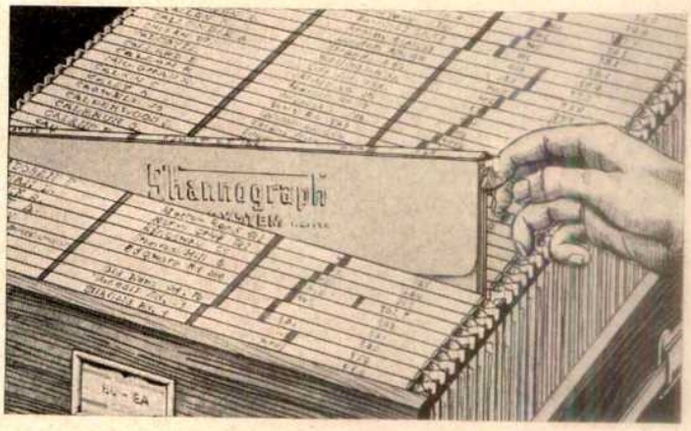
The Editor: And secondly, the enormous saving of time in surveying candidates and making your choice; and this for two reasons: (*a*) obvious "unsuitables" stand revealed at first glance and can be eliminated at once; (*b*) "possibles" can be quickly dealt with since past records and references need not be gone into so deeply.

Mr. Beharrell: These advantages do seem to be of momentous interest to

(*Continued on page* 33)

SUSPENSION—

— one of the many brilliant new filing features embodied in —



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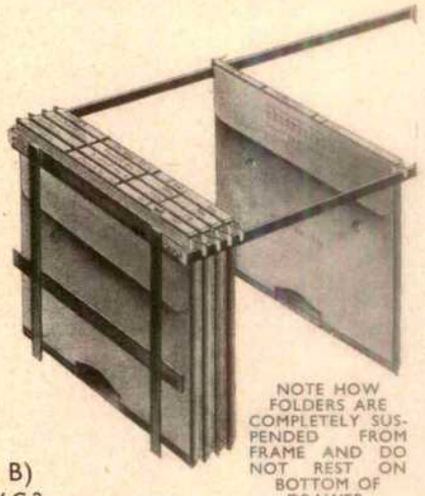

NOTE HOW FOLDERS ARE COMPLETELY SUSPENDED FROM FRAME AND DO NOT REST ON BOTTOM OF DRAWER.

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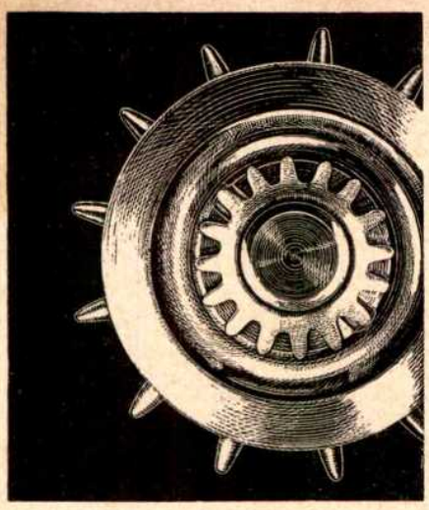

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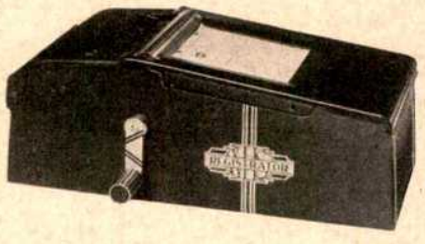

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75 POINTS that Make for *Successful Management*

Gathered during interviews with the top executives of more than 50 progressive firms in many different industries

(*Concluded from last month's issue, page 29*)

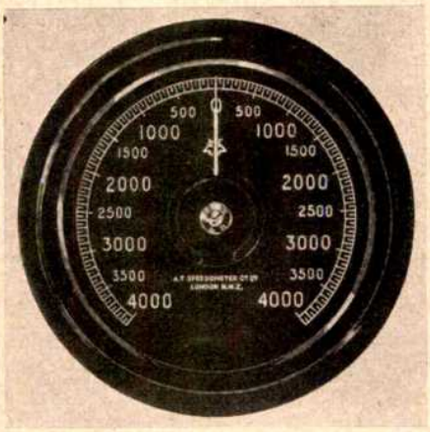
64. Have nothing hazy, especially about expenses. If a man uses his car instead of the train, let it be distinctly understood beforehand that it is with the firm's approval. Have the rate per mile which he will charge the firm distinctly understood.

o

65. Without obtrusion, keep your finger on the condition of the employee who has suffered a great loss, who is obviously sick, who must give up on account of great effort in your interest. There may be no fixed rule as to what you should do, but your conscience is a pretty good guide at such times.

o

66. Give full vacations, never mind when the employee is taken on. Vacations ought to be given more for physical and mental upbuilding than as awards for service. You cannot afford to have people go without a vacation a year, never mind what fraction of a year they have been with you.



Control your output

To be able to set the speed of a machine to produce a predetermined output and to be able to see, at any moment, exactly what speed that machine is maintaining is to remove unreliable guess work from at least one point in the production line. This new type Revolution Counter is designed specially to give this control of group or individual machine speeds. It introduces a factor which assists the executive to calculate and control his costs more accurately. The Revolution Counter itself is accurate to within .5 per cent and is manufactured by the A. T. Speedometer Co. Ltd., Chronos Works, North Circular Road, London, N.W.2

67. The rank and file of your workers are carrying heavy personal responsibilities. Discourage inter-departmental collections among employees and indiscriminate subscription lists for charities, however deserving they may be. When such subscription lists are headed by the firm a request for a subscription to an employee amounts almost to coercion.

o

68. Encourage your department heads to take time to think out systematically forward-looking developments in their departments—especially new and better ways of doing things, saving money in accomplishment and personnel.

o

69. Learn by great patience and application when to hire and when to fire; few of us have so learned, but we should never cease trying.

o

70. If your organization is large, you must arrange in some natural way that your people will know one another; nothing forced will accomplish this. Whatever you do must be done naturally.

o

71. Time is the only thing most of us have to sell. Get the members of your organization to respect your time, and, in turn, don't you forget to respect theirs.

o

72. Let your aim be to hold up before your people a standard of business conduct that can be easily understood and intelligently followed by all of them.

o

73. Take time to discuss the firm's affairs among yourselves; not necessarily when trouble is at hand, or when emergency calls, but week in, week out, in constant constructive upbuilding.

o

74. Remember that an organization is as good as its leaders—never better. You are constantly on trial for fine performance. You can never fail in a situation without its being noted by those under you. On the other hand, you can never succeed without its being appreciated—fully appreciated—if the spirit of the organization is right.

o

75. "Do it Now" is a good motto; but set it as an example, do not merely lay it down as an injunction for others.

(*Continued from page* 31)

employers, but, Mr. Penry, it appears to me that the effectiveness of your system is vested solely in yourself.

There are employers all over the country to whom the system will appeal, but it would be impracticable to get you to go along every time they want to engage staff or to make staff adjustments. Can you pass on your ability to others?

Mr. Penry: Most certainly. I am, in fact, preparing now to do that. What proficiency I have is entirely self-taught, and anyone can attain it.

To reach a point of considerable usefulness, however, it is by no means necessary to study physiognomy for years.

If you will look at my book,* which is just published, you will see how the basic principles of this science can be quickly grasped.

And of course it is not only in staff selection that it is helpful to be able to "read" a person accurately.

Valuable also in Your Day-to-Day Contacts

If business men have hitherto found it valuable, in their normal day-to-day contacts, to be guided by blind instinct alone, how much more valuable to be guided by real knowledge.

The Editor: It's rather away from our purpose here, but can your system be applied to children and young people leaving school? I mean can their potentialities, for various spheres of business or profession, be "read"?

Mr. Penry: Definitely. There is unlimited scope in that field. Young people's aptitudes can be determined with that same 95 per cent of accuracy.

Mr. Beharrell: That's a matter of national importance. It's a pity we cannot discuss it now. Perhaps the Editor will agree with the view that the business men who read his magazine would be as interested in an article that would help to put their children's careers on a sound footing as in anything which assisted employment problems in their businesses.

The Editor: I certainly do agree with that view, though I cannot at the moment commit myself to an article.

Anyway, as an employee selection system I consider it of national importance too. If staffs (executives, sales, clerical, manual, etc.) can be selected so that they are put to work at jobs for which they have the highest natural abilities then not only will all-round efficiency be stepped up enormously, but at the other end of the scale a heavy load of direct and indirect costs will be brought down.

Mr. Beharrell: And into the bargain there would be a lot more human happiness in the world, for I am sure that much discontent and unhappiness, even in the home, has

**Character From the Face*, by Jacques Penry (Hutchinson, 5s.).

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Even a modest conflagration in your premises could cause incalculable damage if your more vital records were harmed. Your premises and stock are of course insured, but no insurance could repay the years of effort represented by your ledgers, sales records, minute books and the like. FIRE-PROOFED CABINETS can take care of these at a very moderate cost however, representing possibly less than just one year's premium on less valuable possessions.

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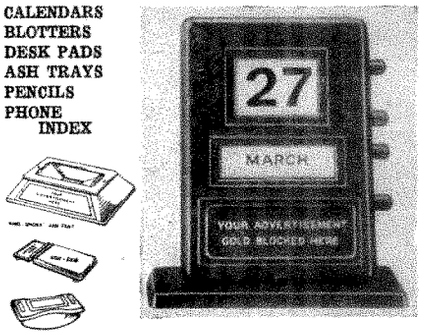
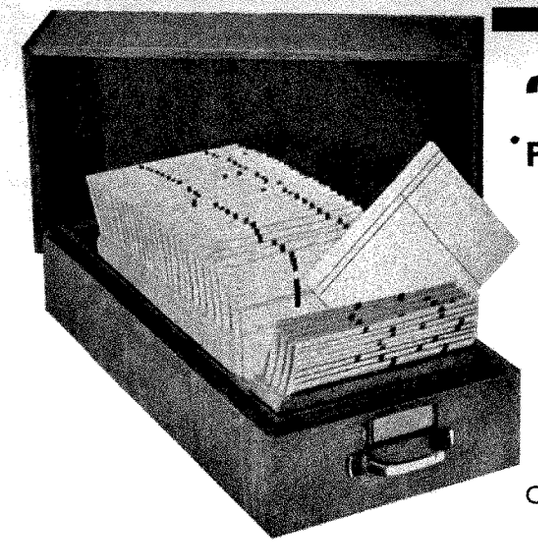
CALENDARS
BLOTTERS
DESK PADS
ASH TRAYS
PENCILS
PHONE INDEX



Write for Quantity List

CALENDOX LTD.,
91 Petty France Westminster, S.W.1



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WE CAN PLAN, SUPPLY, and completely install "VIS-ALL" Records and Equipment, anywhere, for SALES, STOCK, PRODUCTION, LEDGER, OVERDUES, HIRE PURCHASE, ETC., ETC., without interference with regular routine.

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◆

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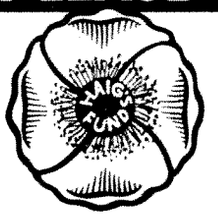
PLEASE GIVE GENEROUSLY



20 YEARS AGO

"They shall grow not old, as we that are left grow old: Age shall not weary them, nor the years condemn. At the going down of the sun and in the morning We will remember them."

Poppy Day is the finest opportunity we have to remember in a practical way the heroism and sacrifices of the War. Poppy Day finances the work of the British Legion for the survivors, thousands of whom to-day are gravely handicapped by age, sickness and the strain of the War years. These men, and the dependants who share their need, have the strongest possible claim on your sympathy. Please help the Legion to help them by giving as much as you possibly can for your Poppies of Remembrance.

POPPY DAY Nov. 11

DONATIONS will be thankfully received by Poppy Day Committees or by Capt. W. G. Willcox, M.B.E., Organising Secretary, Haig's Fund, 29, Cromwell Road, London, S.W.7. POPPY SELLERS ARE URGENTLY NEEDED. Ladies willing to volunteer for this work should communicate with the Local Committees or the Headquarters of Haig's Fund.

VALOR

FOR STEEL FURNITURE

VALOR

Write for illustrated list No. 29/V105 to the **VALOR CO. LTD.,** Birmingham: Bromford, Erdington. London, 120 Victoria Street, S.W.1

its cause in unsuitability of work.

Mr. Penry: That's absolutely true.

The Editor: Before we break up can I ask you, Mr. Penry, if you are prepared to advise readers of BUSINESS on their problems of staff selection?

Mr. Penry: Yes, I shall be pleased to do so, but naturally I am very busy and it would be difficult, at short notice, to arrange visits all over the country. However, if your readers will write to me, care of the Editor, I shall be pleased to give every possible assistance with the least possible delay.

◆

Revolution 'In Camera'

(*Continued from page* 16)

interest has been through editorial articles in trade and general magazines. Here I have put into effect the general marketing policy of inviting the person concerned—the editor—to test the camera for himself. The result has been a number of articles which have given us excellent publicity.

Soon after we launched the new model we made quick progress. Sales began to rise. Better still, the trade and the public were more than satisfied with results. That meant more sales and assured success. It meant, too, that our policy of understatement of what the camera would do was effective.

We have been very careful on this point. For example, although the lens gives universal focus from 10 feet to infinity we claim from 12 feet. That allows for a margin of error on the part of a user. Again, we have not used photographs taken by professionals nor touched-up prints in our advertising. Every illustration has been of a photograph taken by an ordinary amateur.

An interesting discovery was of the existence of a "specialized" market. For example, there are professional men who like to have photographs of various phases of their work. Sometimes this calls for high-speed action,

Leabank Chairs preserve the *natural* upright posture that is healthiest and therefore most efficient for workers of both sexes. Models include low-priced factory series.

LEABANK CHAIRS

MANY FACTORY AND OFFICE MODELS
Write for free list.

LEABANK CHAIRS LTD.
13 Imperial Buildings,
56 Kingsway, London, W.C.2

sometimes for photography in poor light. But these men do not want to use complicated and expensive equipment. The Purma, which can be operated with one hand, has filled their need. Surgeons or their nurses are using them for "snapping" incidents in an operation; engineers are taking "shots" of moving parts of machines.

This special market is worth developing and we are now considering schemes for exploiting it.

What I have told you is, to date, the story of rescue and success of the Purma. The story has, I think, a moral: even a good product will not sell unless (*a*) it is at least as good as claimed to be, (*b*) serves a useful purpose, meets or creates a demand, and (*c*) is presented to the public in a readily acceptable form.

●

Bad Lighting Costs £630,000 a Year

(*Continued from page* 36)

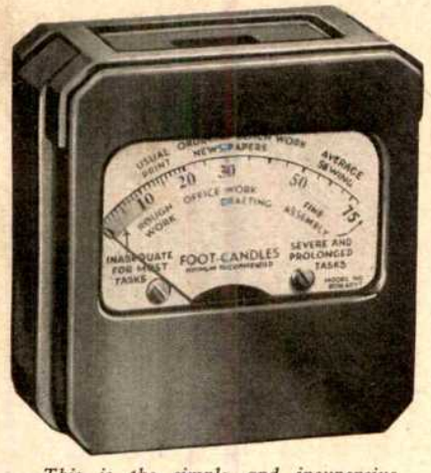
ing with your previous result. You may find that as much as 20 per cent of your light was absorbed by dirt and dust.

Although it is possible for anyone possessing a light meter to measure light, only a specialist such as an illuminating engineer can advise properly as to the suitability of any given light intensity for a given type of work.

One very common fault to be found in both offices and factories is "glare," which is *uneconomical* as well as being definitely harmful to the eyes.

The eye functions like a camera diaphragm. If the lighting conditions are such that glare is present the pupil of the eye automatically contracts to try to reduce that condition.

Thus, while money is being spent on current in order to produce light, the



This is the simple and inexpensive Light Meter described in the text on page 36

quality of the light is permitted to be of such a nature (glare) that the human eye shuts out a great proportion of it as unsuitable and therefore unusable. You are, then, simply paying for something that is literally thrown away.

But you not only pay for wasted current: you also pay far more heavily for a lowered standard of work and output volume.

As I pointed out last month, if perception is lessened (either through glare or any other cause) people cannot "see" so well, and if they cannot see well they cannot work well.

Money Spent on Proper Lighting Makes a Profit

A good example of the saving effected by eliminating glare is shown by the two illustrations of a glass manufacturer's works. Fig. 1 was photographed before the lighting was replanned; notice the glare and the harsh shadows. In Fig. 2 the lighting has been improved—notice the good visibility.

If the wage bill on this particular floor was £150 per week, i.e., £7,800 per annum, and assuming that the easier perception made possible by proper lighting conditions made possible an increase of only 2 per cent in the staff's productiveness, then this installation would show a 2 per cent return on £7,800, or £156 a year.

Actually the installation cost less than £150, so that on only a five-year basis this improvement is profitable to the extent of about £630.

Definitive

WHAT IT MEANS

Fowlers Modern English Usage:—

"definitive *means having the character of finality,*" "*—and that is* definitive *which is not temporary, provisional, debatable or alterable.*"

Universal English Dictionary:—

"Making a precise statement; conclusive, obviating any further need for argument or inquiry; final."

We do not need to elaborate these definitions—DEFINITIVE does that itself.

WHAT IT DOES

It eliminates bound books of account. By posting direct to loose-leaf ledger forms superimposed on a "journal" or "control sheet", carbon copies are obtained of each group of transactions, such as Sales, Purchases, Cash Receipts and Payments, Discounts, etc. Monthly Statements attached together with a special carbon to a Customer's ledger sheet are written automatically and constitute an exact copy of the account. *One single entry* will post the ledger, statement, "control sheet" (or Day Book), and another form serving as data for commission statements, job costing, analyses, etc. By the Definitive method perfect "control" is attained, *and no posting can be arithmetically incorrect.*

WHAT IT COSTS

A self-contained unit comprising Recording Tablet and Hand Rest, Cabinet with Supporting Plates, Binding File, Accounts Register, stationery, carbons etc., and complete with the DEFINITIVE Visible Record can be supplied for approximately £12 to £40, according to types of appliances and quantities of forms required. This includes free service in investigation and installation. *We give you the principal advantages of mechanized accounting at a fraction of the cost of machines.* If you prefer typed accounts instead of our hand-posting method, the DEFINITIVE Machine gives you the same results even more amplified, but it also costs more.

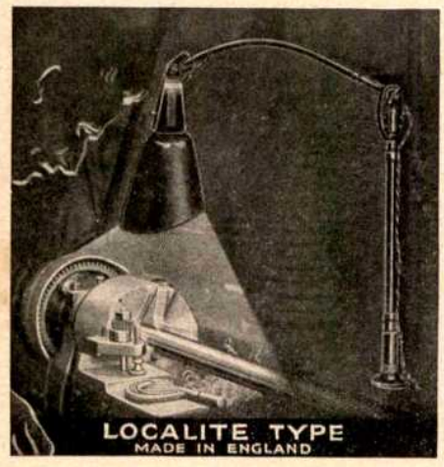
Definitive

ensures ACCURACY · ECONOMY · EFFICIENCY

DEFINITIVE ACCOUNTING LIMITED,

Victoria House, Vernon Place, LONDON, W.C.1. Telephone: Holborn 9006.

BY THIS METHOD YOU CAN COMPLY WITH THE REQUIREMENTS OF THE FACTORY ACT, ALSO A.R.P. LIGHTING PRECAUTIONS, AND AT THE SAME TIME SAVE ON YOUR LIGHTING BILL . . .



The "Localite" Arm directs concentrated light on the job in hand from any desired angle. No light is wasted, so that maximum kilowatt demand and current consumption are definitely lowered

WALTER GRAFTON & SON LTD.
DEPT. 13b. LONDON, S.E.9
Phone : Eltham 2121 (5 lines)

SALES LITERATURE OR SELLING LITERATURE

WHICH IS YOURS?

To bring in the orders and inquiries, sales literature must tell about your product or service in a striking and convincing way—must possess the "punch" necessary to cause favourable action.

Have you the ability to write sentences which will capture the prospective customer's interest and cause him to act ? Have you the ability to design literature which will present your message with real forcefulness and create the atmosphere which you wish to surround your service ?

If you are doubtful, our writing and designing *specialists* could probably help you. Send us details about your product and we will prepare a suggested lay-out without fee.

J. W. RUDDOCK & SONS
Advertising Consultants
LINCOLN
and at 3 Old Jewry, LONDON, E.C.2

In Compensation for Accidents due to *BAD LIGHTING*

Industry Pays £630,000 a Year

By J. MORTIMER HAWKINS
Managing Director, Mortimer Gall & Co., Ltd.

ONE serious problem which the managements of manufacturing concerns frequently have to face is the elimination of accidents.

In addition to the costs of compensation, accidents undermine the morale of employees and induce within them a feeling of insecurity. This is especially so in the case of women employees.

I came in contact with one case recently where a man lost two fingers in a press machine. It so happened that a young woman operative from another department was passing at the time. She was so affected that she had a fit of hysteria.

Like lightning the news spread among her friends, and they became so "jittery" that for a while a considerable volume of work was adversely affected.

From a survey issued by H.M. Inspector of Factories it is shown that the average amount paid *yearly* by industry for accidents in factories approaches £2,250,000—and of this amount the Inspector attributes £630,000 a year directly to improper lighting.

I have records of a typical example that supports the above statement. This firm employs about 1,000 workers. The accident rate used to be some 400 cases a year, involving over £3,000 a year in compensation and medical fees, without taking into account any indirect losses.

Modernization of the lighting by means of improved reflectors and readjusting the location of the lighting points at a total cost of £500 reduced this accident rate by 50 per cent and cut the compensation payments by more than £1,500.

This kind of result proves clearly how a correction of the lighting can reduce accidents, and it also demonstrates that such money spent on scientific lighting is a profitable investment and not a mere charge.

So far, in these articles, mention has been made only of *quantity* of light, but *quality* is an equally important consideration.

But before dealing with this matter I should like to offer some information concerning light meters. These instruments are very reasonable in price: the model illustrated costs £4 17s. 6d. As you can see, they are very compact and can easily be carried about in the pocket.

Left : Note eye-confusing 'glare' from every lighting point, also general 'indistinctness' of lighted parts of the shop and heavy shadows which faulty lighting produces

Right : PLANNED lighting installed : No exposed filaments impinge upon the eye ; glare is thus eliminated and general visibility greatly improved

To measure illumination simply place the meter *on the plane of work*, it will then give you an instantaneous reading in "foot-candles," though it must be understood that to take light-meter reading of electric discharge or daylight illumination a correction factor must be employed.

If you would like to reduce your overhead expenses and your electric fittings have not been cleaned for some weeks, I suggest you try the following experiment:

Place a light meter underneath a fitting and take a note of the reading. Then have the fitting thoroughly cleaned; put the meter in the same position as before and compare the read-

(*Continued on page* 35)

Mechanization

gave this small factory BIG SCALE Output

From an Interview with

DR. CECIL VOGE, B.Sc., Ph.D., F.R.S.E.

Works Director, Scrubb & Co. Ltd.

CLEANING the Augean stables, classical example of hard work and "it can't be done" task, finds a modern equivalent when some old-established firms start to reorganize and clean out accumulations of habits, routine, prejudices and outworn methods. It is one time, at least, when executives must play Herculean roles.

We know. We have just done a job of this type. But I do not claim Herculean characteristics and therefore must acknowledge the help and support accorded me by the directorate, my colleagues and Mr. Harley, of Gravfil Machines. None of these appear to recognize the word "impossible," and the changes described are results of our combined efforts.

Actual reorganization took place some time ago. This enabled so many other activities to be followed up that new premises had to be acquired. Thus we had *re-reorganization* almost within a year.

Three Big Results From This Drastic Action

The first step was jettisoning half a century of accumulated material. Result: increased production of main lines up to 300 per cent; cost per unit drastically cut; about 40 per cent less labour needed.

The penalty of being the oldest, best-known product on the market is that imitators are not lacking. For some 40 years Scrubbs had reigned unchallenged. Naturally, when the position changed, the whole position had to be reviewed, and about four years ago the well-known chemical merchants, R. W. Greeff & Co., became interested in Scrubbs. An arrangement was made whereby Chemical and Natural Products, Ltd., should act as selling agents. (This company is an offshoot of the parent company, R. W. Greeff.) At the end of a trial period complete control of manufacture was also undertaken.

First steps taken embodied overhauling selling and marketing policies; advertising appropriations were drastically cut, and new themes devised. This showed immediate results. Next, Press advertising was abandoned for a short time and the money spent on publicity films, dealer tie-up and display material. Result: sales soared to the highest volume since 1930.

To cope with the increase all the old routine, the old plant which had served useful purpose but now resembled a Heath Robinson creation, was scrapped. A semi-automatic loop system was installed. This choice was forced upon us because three sizes of ammonia, two sizes each of two other products, are filled. The variety was too much for a completely standardized automatic system.

Reorganization Brought About

1. **300 per cent increased production**
2. **Drastic cost reduction per unit**
3. **40 per cent cut in labour needed**
4. **Elimination of all overtime work**
5. **Halving of factory space used**
6. **Facilities to handle extra products**

Coincident with final stages of the change-over, accomplished step by step without slightest disorganization, further products were taken over. Opportunity also arose to sell the old factory provided we could (a) *move out in the specified time, and* (b) *do it without disrupting production during the peak season of the year.*

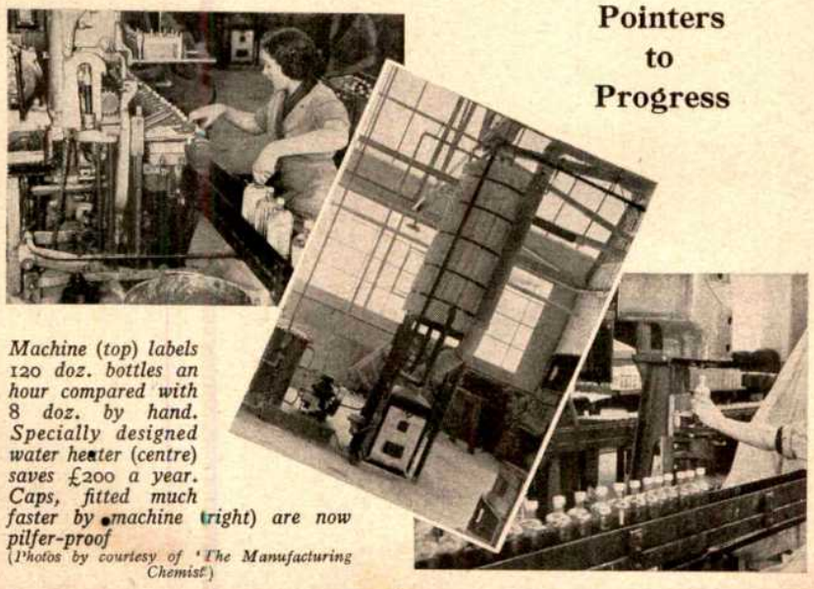
Stocks Built Up For Period Of Non-Production

Both questions were answered "Yes." The old factory was sold, and we got down to detail reorganization work. We knew exactly the type of factory that was needed—clear floor space, plenty of natural light, planned for flow production, etc. While the factory was being erected large stocks of the various products were built up. These were kept in a temporary store place. They were sufficient to last over the timed three-week period of non-production, occupied in removal and re-erection of plant.

At the same time opportunity was taken to still further mechanize and simplify production.

Take, for instance, the little problem of bottle-washing plant. Previously we had to use a steam boiler, therefore the services of a stoker. This was not only costly but unnecessary. Hence we designed, in collaboration with Wandsworth Gas Company, special bottle-washing plant. This consists of two closed circuits: the first is for heating the water and is thermostatically controlled; the second takes the heat from it and is attached to the bottle-washing machine. Sedimenting tank, filter and pump are included in this circuit. The result is technically and financially ad-

Pointers to Progress



Machine (top) labels 120 doz. bottles an hour compared with 8 doz. by hand. Specially designed water heater (centre) saves £200 a year. Caps, fitted much faster by machine (right) are now pilfer-proof
(Photos by courtesy of 'The Manufacturing Chemist')

mirable. At least £200 per annum is saved.

I mention this example because it is typical of the trouble we have taken in planning and setting up our new factory and plant. We could have procured a standard type of heating and washing plant, but that available did not exactly suit our purpose. By taking some extra trouble we got tip-top efficiency and cut costs to a fraction. This has been our policy throughout. It is the reason why our production figures are now so high and costs so low.

Mechanization problems have been tied up with others. An example is bottle labelling. Previously eight separate labels were put on each bottle of Scrubb's Ammonia. These labels included one (for price) so small that girls grew long finger-nails to pick it up! Obviously, re-designing was needed. We incorporated all labels in one without altering essential details and bought a labelling machine. This machine can be switched over for labelling six different sizes of bottles, which takes care of our other bottle lines. The speed-up is this: where a girl labelled eight dozen bottles an hour she can do two dozen a minute on the machine.

Again, at this reorganization, we took the chance of solving a problem of fitting caps to bottles. This was a hand operation. Constant screwing on of caps made the girls' hands sore, and the cap allowed tampering with the bottles. Now we have pilfer-proof caps fitted by machine. Caps are put on the neck of the bottle like a thimble, and the thread is spun on. When the cap is screwed off a metal ring at the base is broken. Thus you can see at a glance that the bottle has been opened. This provides protection for us and our customers. Indeed, the method is so satisfactory that nearly all our liquid products are capped this way.

Yet another little feature which has brought big returns is the new method of storing bottles. Two methods normally used are: (1) packing in bags and straw; (2) packing in cardboard cartons. Method (1) results in quite a number of breakages, raises a problem of straw disposal and provides a breeding-place for rats. Method (2) also results in a fair percentage of breakages and introduces a problem of disposal of cartons.

This Method Reduces Work and Breakages

Our new method is to pack and store the bottles loose in sacks. They are transported and stacked *by the sackload with no straw or packing* between bottle and bottle. Result: breakages now are negligible, and the return of empty sacks is a simple matter. And, of course, time needed to take bottles from sacks is a fraction of that needed to unpack them from cartons.

These various examples illustrate the type of problem we dealt with, the policy and methods used to solve difficulties. The factors involved are similar, in principle at least, to those faced by any small or medium-size firm. And any firm can tackle them with similar success.

Now let us take a quick look over the factory and get a general idea of the lay-out.

Front of the building is given to office departments and a laboratory. Executives look on to the main factory floor. Production starts at the far end of the factory by the "In" door and flows towards the offices by the "Out" door.

Raw materials, bottles, etc., are brought in at the lower end. From the bottle-washing equipment bottles are placed on an open slot conveyor which takes them to the fillers. There are various fillers, each type suitable for handling certain of the lines produced. Ammonia stock is kept outside the building and is pumped up into tanks for processing and treatment. (Incidentally, tanks, piping, etc., are of stainless steel, which is unaffected by ammonia.) From the tanks it is drawn off through the fillers. Of course all controls of machinery and equipment are easily reached by operators.

Bottles pass from fillers to capping and closure machines and so to labelling machines, travelling by conveyor all the way. Then they are carried to sorting and packing tables beside the carton stores. From here packed cartons are slid on to a roller conveyor for transit to stores or for dispatch.

The store room is another instance of attention to detail. It is built with adjustable steel shelving and posts, can be enlarged or reduced or altered in arrangement whenever the demand arises. The whole store room, in effect, is transportable. It can be taken down and re-erected in another part of the factory in a few hours.

Lifetime Wear on Materials is Measured in *Hours* by This Machine

THE effects of months of normal use on materials can now be known in a few hours through use of an invention which, in effect, "concentrates" weather. For example, when specimen panels cut from the same steel as is used in body construction of cars are placed in this "Weatherometer" for 500 hours, research experts can measure the effects of exposure to sun and weather for the entire life of a car.

Helps To Improve Material

This is the use to which Ford Motor Co., Ltd., Dagenham, are putting the device. They are testing the durability of body finishes and other materials. The data obtained is invaluable in evolving enamels, upholstery fabrics and roof leathers that will retain their new appearance for indefinite periods.

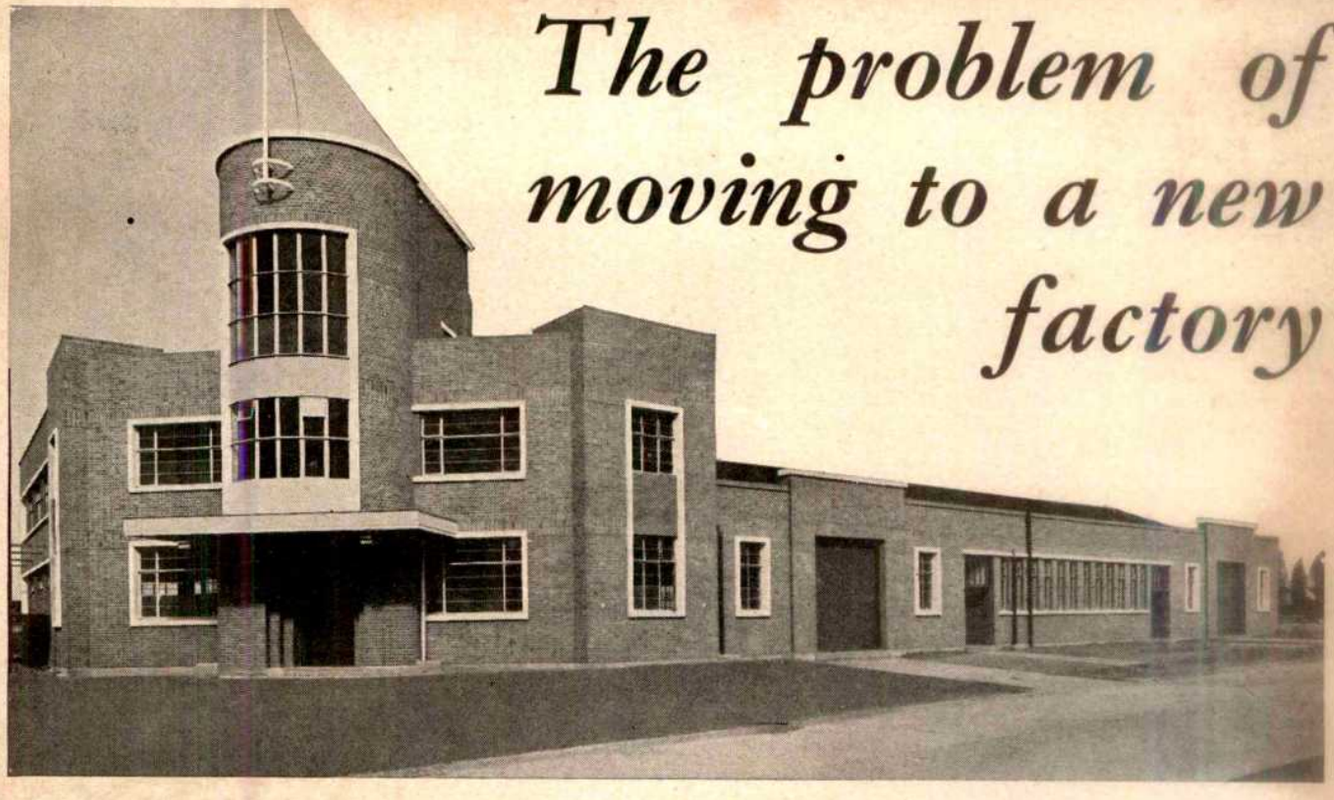
The "Weatherometer" consists of a large cylinder in which is an immensely powerful arc lamp, the light from which contains 8.2 per cent of ultra-violet rays. Panels coated with samples of the various enamels to be tested are placed in the cylinder and revolved slowly in the rays of the lamp, a complete circuit taking 20 minutes. After each complete revolution of the cylinder the panels are subjected to a fine spray of soft water, producing the same effect as a shower of rain.

'Life' Exposure Is 500 Hours

This process is continued for 17 hours, after which the arc is removed and the panels are drenched with a heavy spray for three hours. The arc is then replaced and the cylinder revolved continuously until the panels have been exposed for 500 light hours. 1,200 gallons of softened water are used every 24 hours in simulating the effect of rain in this cylinder.

Any product affected by weather and wear can be tested in the 'Weatherometer' before being put on the market. It's a machine thousands of manufacturers could use to save money, produce better products and expand markets

The problem of moving to a new factory



This newly erected factory faces the Cambridge Arterial Road and has a floor area of 16,500 sq. ft.

solved by this unique service

Commercial Structures offer Manufacturers a complete service which takes care of all those detailed worries connected with opening a new factory, and saves a great deal of time and money. The service includes: a scientific analysis of individual requirements ; the provision of a suitable site where the necessary labour and transport facilities will be available ; and the construction of a CS PLANNED FACTORY, engineered to the last inch to facilitate modern methods of production. For manufacturers desiring immediate possession, a number of factories similar to the one illustrated above are always held available, and can be rapidly adapted to individual requirements. Any of the 250 manufacturers in the London area already housed in CS PLANNED FACTORIES will readily vouch for the great advantages of premises 'designed for purpose'. *For full details, write . . .*

Among those well-known firms already installed in **CS** *PLANNED FACTORIES* are

Imperial Airways Ltd.
C & A Modes Ltd.
Ferguson Radio Ltd.
Dunlop Rubber Co. Ltd.
I. & R. Morley Ltd.
Potter & Moore Ltd.
Baird Television Ltd.

CS FACTORIES
planned for modern industry

COMMERCIAL STRUCTURES LTD

CONTRACTORS & ENGINEERS STAFFA ROAD LEA BRIDGE ROAD LEYTON E 10 Leytonstone 3678

BOMB Your Own Factory to *Test* A.R.P. Staff Organization

This sort of realism can be staged for staff practice

IT is not sufficient for manufacturers and other business firms to organize fire-fighting, decontamination, rescue and other squads: tests of efficiency of such organization must be carried out. For this purpose there are available to-day high explosive, incendiary, smoke and gas bombs. Instruction can be given under realistic conditions with the aid of these "bombs."

High explosive bombs, for example, imitate the sound and percussion effect of an H.E. shell and are now commonly employed for demonstrations. Instructions for use are printed on the bombs, which cost only 2s. each.

Excellent fire-fighting training can be gained by use of "electron" bombs. In war these range from 1 kilo to 50 or 60 lb., and up to, roughly, a thousand of them can be carried in an aeroplane. When dropped, they penetrate light roofing, such as tiles, slates, fibrous cement sheeting, corrugated iron, etc., and start fires.

There are, too, other types of incendiary bombs available for instructional purposes. The thermite bomb, for instance, is provided in three sizes: 250, 500, and 1,000 grams. There is also an incendiary phosphorus set which is valuable for practice. Recently it has been more widely understood that phosphorus bombs are a big menace because, unlike the thermite bombs, they throw off burning pieces and develop heavy smoke. It is essential that fire-fighting squads at factories and offices should learn how to handle this danger.

There are Three Classes of War Gases

The so-called "gases" used in war are in reality solids or liquids. They may be divided, roughly, into three classes: (*a*) eye irritants, (*b*) throat and nose irritants, (*c*) lung poisons. One gas, of course, may act as eye, throat and nose irritant as well as a lung poison.

One of the great difficulties to be overcome in fighting gas attacks is panic. People can be trained in peace-time to gas attack conditions by use of imitation gas bombs.

This is also true of sprayed blister gas (mustard and Lewisite gases). Factory air-raid wardens and decontamination squads should certainly be given "realistic" training. This can be done by use of spraying bombs (2s. each). These are filled with imitation substance. Gross contamination occurs where the bomb is placed, decreasing in intensity as the oil spreads over a wider area. De-

(*Continued on page* 44)

What Paint shall we Specify?

AN ANSWER TO EVERY PROBLEM—ON THE DECORATION SIDE!

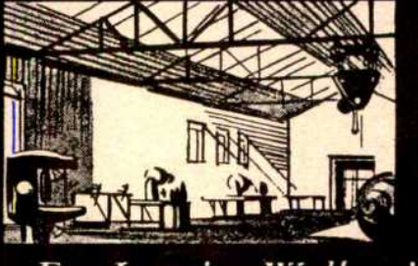
For Outside Walls

TUNGALINE

THE CONCRETE PAINT

TUNGCRETE

WEATHERPROOF IMITATION STONE PAINT



For Interior Walls

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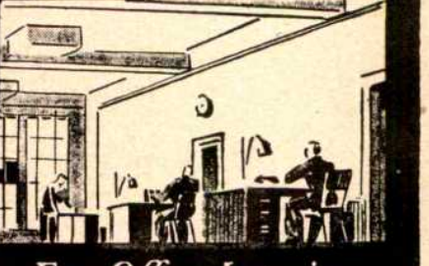
Home Office Regulations permit surfaces painted with SISSONS FACTORY WHITE to stand for 7 years without repainting.



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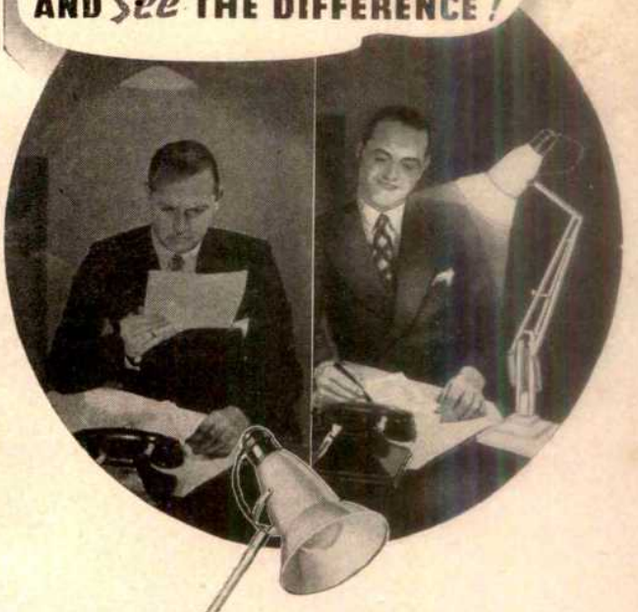

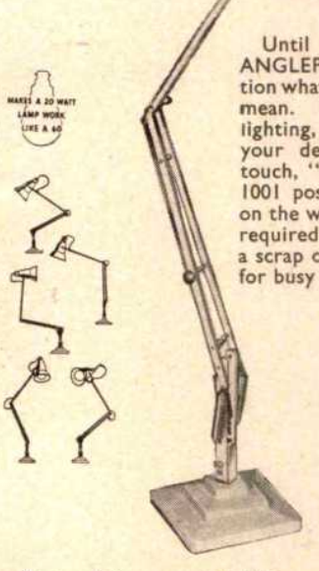

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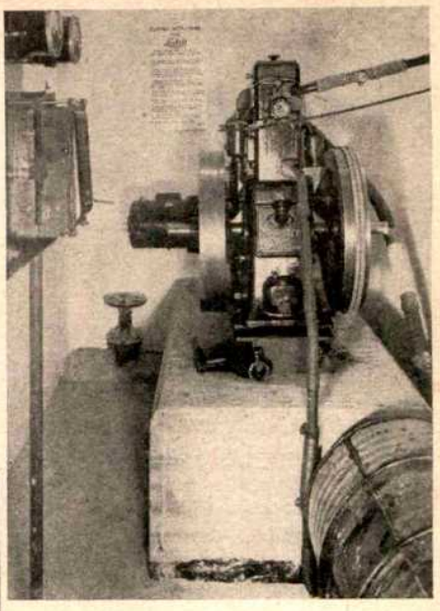
More Engineers To Serve You On A.R.P. Emergency Lighting

TO cope with demand for stand-by lighting plant for use in case of damage to the mains from air raids, a Gloucestershire engineering firm have opened a special A.R.P. department in London.

The department will assist manufacturers, public authorities, institutions and other big users of electricity to complete their plans for meeting emergencies. It is staffed by engineers experienced in A.R.P. work. They will be available to go anywhere at short notice to advise on lighting problems.

The company, R. A. Lister & Co., Ltd., have had scores of inquiries about stand-by plant recently. As the Chairman, Mr. Perry Lister, pointed out to BUSINESS: "One of the essential needs of every air-raid shelter and of every building which has to carry on its normal routine in time of war is an uninterrupted supply of electric current: firstly to provide sufficient light to prevent panic, and secondly, to maintain the other essential services dependent on it, such as ventilating-fans for gas filtration equipment and pumps to reduce flooding from damaged water mains."

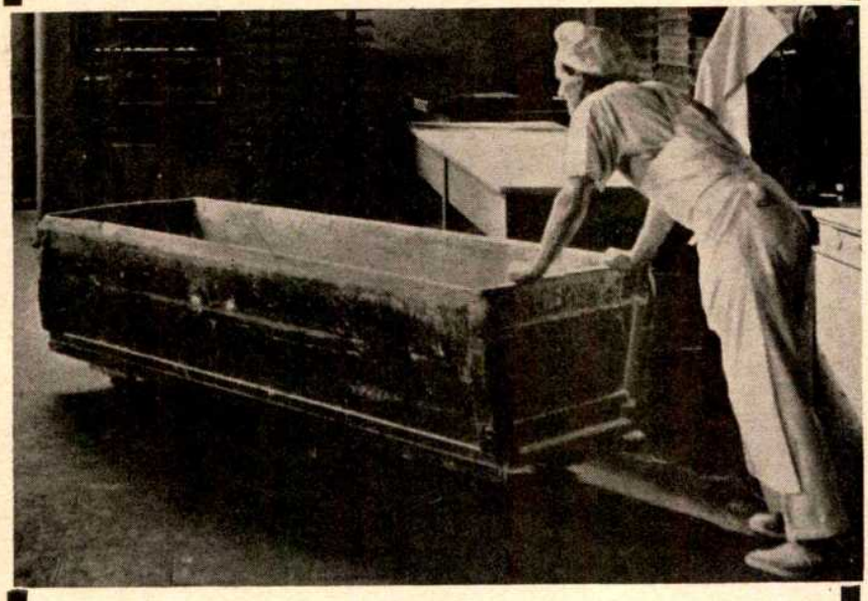


Emergency lighting is essential in A.R.P. to maintain services, prevent panic, etc. Plant shown here is being used in factory A.R.P. schemes

In ordinary circumstances accidents of this sort are few and usually are quickly put right. But if war comes, the black-out must be guarded against. A direct hit on a power station might destroy the lighting system of a whole district for days, even weeks.

"The form which stand-by plant for A.R.P. purposes takes varies with every installation," Mr. Lister said, "and the problems presented must all be individually considered. It is to meet these needs that we have established our new A.R.P. department, which, we hope, will be of real service to the community."

This floor paid for itself in two years—



—and has cut production costs every year since!

"Eleven years ago," states one of our clients, "we had one of our Departments floored with Stelcon Steel Clad Flags. Trucking on our floors is extremely heavy but Stelcon has never cost us a penny for maintenance. More important still, your floors have saved very considerable sums of money each year because they remain level and trolleys are not now upset and the contents damaged or wasted. As you know every one of our Departments now has a Stelcon floor." *Stelcon can do the same for you* and we invite you therefore to consult us about your flooring problems.

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Here's Free Advice On Any Acoustical Problem

A NEW service for business executives, architects, and builders is announced by a London firm.

Main object of the new service is to supply executives with comprehensive information on all branches of acoustical correction. The aspect dealt with in particular is control of sound by use of insulating and sound-absorbing materials.

Other activities of the service will include initiation of original research into problems of sound control in old and new buildings. Reports on such work will be prepared from time to time.

Experts will be available for carrying out acoustical analyses in banks, offices, theatres—in any interiors where accurate control of acoustics is a matter of first importance. The service is free.

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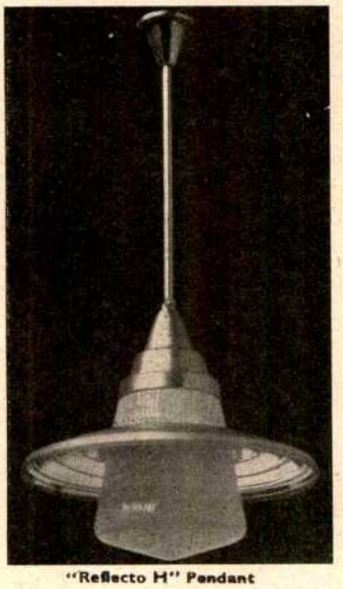

"Reflecto H" Pendant

Industrial research has disclosed the fact that all workers, whether in an office or a factory, are affected to some degree by the quality of the illumination. Correct lighting plays an important part in promoting general efficiency in the office. The fitting illustrated is the result of our long experience of all forms of electric lighting and is ideal for office purposes. It comprises a "Harcoray" silvered glass reflector, the effect of which is softened by a satin rim, a one-piece opal globe, supported by a screwless safety gallery, and gives a high degree of "downlight" where it is most required.

One of our lighting engineers is always available and his advice will not involve you in the slightest obligation.

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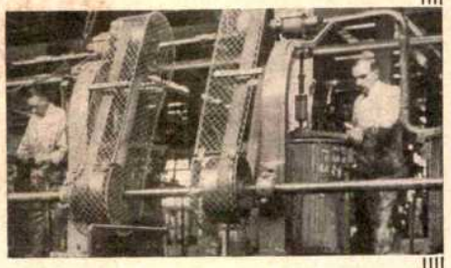
Do you realise . . .



how high your responsibility lies in the question of dangerous machinery ? Contributory negligence by your employees cannot be pleaded in the event of an accident. Under the new Factory Act you are not merely obliged to make dangerous machinery safe, but certain kinds of machinery such as prime movers must be made safe by means of fencing.

Procter Bros. (Wireworks) Ltd. can remove this problem for you. Where your present machine guarding may be inadequate to meet the new ruling, or where new equipment of this kind is necessary, we can install the requisite wireguards to afford complete protection without wastage of factory space.

Procter Bros.* (WIREWORKS) *Ltd.

CALL LANE · LEEDS

Bomb Your Own Factory . . . .

(Continued from page 40)

contamination squads can get excellent experience from mock conditions organized this way.

With the help of these various imitation substances it is now possible to stage air-raid conditions with realistic effect, and air-raid drill, involving the whole staff, should be held from time to time. It is part of the vital defences of the country that A.R.P. should be soundly organized in every factory and office. It is up to you, as head of your firm, and to your executives to see that the organization is complete and will work smoothly.

This Free Service is For All Executives

For further details about imitation bombs and any other materials or equipment for factory or office A.R.P. write to: Industrial Editor, BUSINESS, Whitefriars House, Tallis Street, London, E.C.4.

'Shuttlecock' Cuts Costs

In factory, office or shop, speed of communication is a vital factor that affects profits. This type of communication, for example, is a letter carrier (made by Lamson Engineering Co., Ltd.). It is installed in the distributing centre of a big firm of manufacturers, and carries documents between the accounts department and the order office in the factory. Credit orders for sanction are sent up to the accounts department by the carrier. Before this carrier was installed, credit order sanctioning formed a bottle neck in the despatch of goods because of the time lapse in carrying orders by hand to the accounts department. This shuttlecock system has largely cut out the time log

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This *Silent* Signalling System Uses Lights

A NOVEL method of signalling, whereby the electric lights in all or part of a factory or office are used to replace usual bell or buzzer calling, is now on the market. The system is simple, inexpensive and easy to install.

Operation is briefly this: when a bell is rung or a buzzer sounded, the "Silent Bell" system flashes lights on in the day time and dims them at night. This light action attracts the necessary attention. It eliminates bell or buzzer noise in offices while in factories it is a safeguard against missing a noise call which might easily be lost in the roar of machinery.

Multi-colour Staff Locaters Are Available

For staff location system where the number of persons to be called exceeds six, there are special multi-coloured staff locaters available. Otherwise the ordinary model is suitable.

The equipment can be adapted to all types of call systems and can also be extended to the telephone. This means that you can eliminate entirely the noise of telephone bells ringing in your office. The system is connected to the telephone by means of a separate relay switch which is supplied by the G.P.O. and costs 4s per quarter for rental.

"Silent Bell" equipment is made by a London firm who will supply readers of BUSINESS with technical details upon request.

Steel-Glass Partitions For Factory and Office

INSULATED steel and glass partitions which are sound- and fire-resisting, suitable for factory, office or shop use, have recently been put on the market by a nationally known manufacturing concern. The partitions are of latest design and incorporate all important up-to-date features.

The outstanding features of the new partitions are: (*a*) effective sound-proofing through insulated panels (with the exception of type "R" factory partition); (*b*) three-way raceways for concealed telephone, power and light wiring; (*c*) quick installation; (*d*) posts have floor-levelling bolts and, when ceiling height, ceiling pressure bolts for rapid adjustment; (*e*) glazing is simplified by a new type of friction moulding.

If you have any problems of division of space in factory, office, shop or other business premises, most likely these partitions would provide a solution.

AIR-RAID PROTECTION

that is unobtrusive, inexpensive but very efficient!

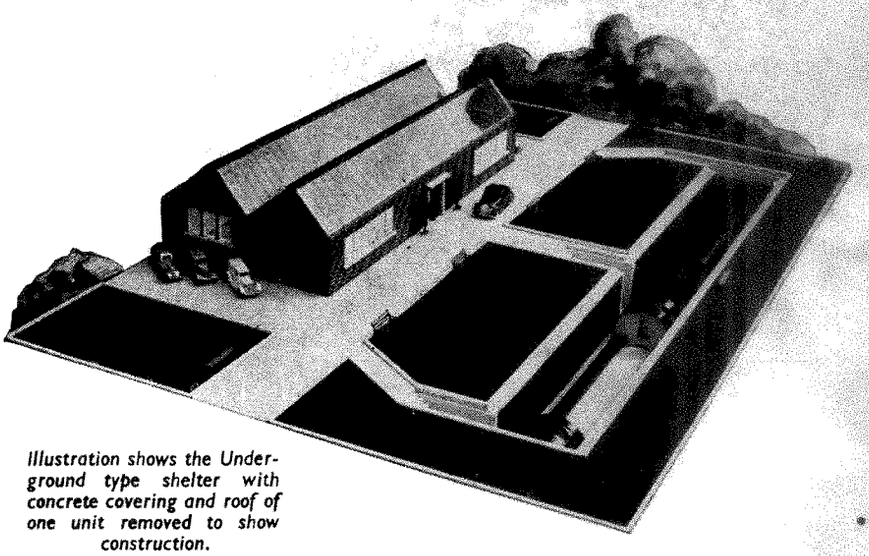

Illustration shows the Underground type shelter with concrete covering and roof of one unit removed to show construction.

The "Nissen" Air-Raid Shelter has undoubtedly taken its place as the acknowledged economical form of protection against aerial attack. It was designed to conform with the recommendations of the Home Office Authorities, and Shelters are being installed for some of the principal Corporations and Institutions throughout the country.

Models for above or below ground construction are available and can be supplied to hold 10, 25 or 50 persons per unit. The fullest particulars will gladly be provided on application.

The NISSEN AIR RAID SHELTER

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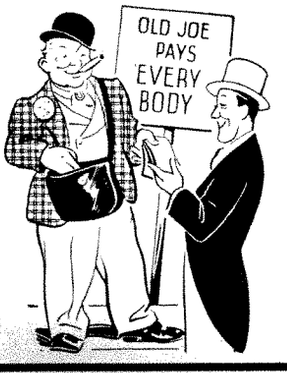

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THE MARK OF SERVICE

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Testing-Out a 16-Tonner

(*Continued from page* 20)

acceleration it may quite conceivably create traffic obstruction on routes traversed by smaller and quicker trucks, so to see how the Mammoth-Major behaved in that respect a halt was called on a stretch of level road near the famous Haddon Hall to take a few stop-watch figures.

In addition to the actual results obtained, the acceleration tests revealed a number of interesting points in which the keen operator is always intrigued.

The major acceleration test on this occasion consisted of moving away from rest in bottom gear and introducing the higher ratios at appropriate engine and road speeds to reach the speed of 20 m.p.h. in the quickest time possible.

This calls for ample engine flexibility, quick and positive clutch action as well as perfect manipulation of the gear selector mechanism and serves also as a check upon the correct grading of the gear ratios to suit the torque characteristics of the engine. The fact that it took no longer than 23 3/5th seconds to reach the required speed gives some idea of the lively performance of the big eight-wheeler under full load.

FACTS AT A GLANCE

Vehicle Tested: A.E.C. Mammoth-Major Eight-Wheeler

Makers: The Associated Equipment Co., Ltd., Southall, Middlesex

Capacity: 16 tons.

Body Length: 22 ft. 6 in.

Wheelbase: 17 ft. 9½ in.

Fuel Consumption: 6·3 m.p.g.

Pay-load Ton Miles Per Gallon: 100·8

Max. Gradient Climbed: 1 in 6.

Annual Tax: £90.

Chassis Price: £1,810

Entirely different conditions were imposed by the next test for rolling acceleration on direct drive, for while the engine was pulling hard the accelerator was held down, whereupon the road speed was increased from 10 to 20 m.p.h. in 11 1/5th seconds, proving the model to be capable of a really good top gear performance, with corresponding benefit to economical fuel consumption.

Readings from the Tapley Performance meter showed the maximum pull on second, third and fourth gears as 180, 120 and 80 lb. per ton respectively; while the brakes—still in new condition before any high spots were worn off—showed an efficiency of 42 per cent for the foot brake and 30 per cent for the hand brake, figures that would doubtless show considerable improvement when the shoes and drums had settled down after a little use.

Fuel Consumption Test Showed 6·3 m.p.g.

As our route contour map showed that for the next 15 miles we should be traversing undulating country before climbing up into the mountains, we took the opportunity of making three separate tests for fuel consumption. For this purpose a specially graduated test tank was connected with the fuel supply and the run continued at a uniform speed of 20 m.p.h., except where the gradients reduced the rate of travel. The mean result of the three checks produced the figure of 6.3 m.p.g. with the equivalent pay-load m.p.g. of 100.8, which will doubtless appeal to operators as representing an amazingly high standard of haulage economy for a vehicle of this class. As a matter of interest it may be mentioned that the A.E.C. Mammoth-Major shows the gross ton-miles per gallon of fuel at 138.6.

A Big Point: It's Easy On The Driver

A thing that impressed me very forcibly was, that although I had driven the big eight-wheeler hard for nearly three hours, the journey thus far had occasioned no noticeable fatigue which testifies as to the general ease of control and the smooth running of the vehicle as a whole.

From the Snake summit there is a descent of 4½ miles into Glossop where good steering and reliable brakes are always in great demand, the road being tortuous in the extreme. By liberal use of third gear to assist retardation we were able to make a quick and safe descent, using the brakes mainly for steadying purposes at the corners and on the steeper down grades.

After a final spell of climbing up to the heights of Buxton, we were able to allow the Mammoth-Major a short run at its maximum speed on the "overspeed" fifth gear, when it became obvious that 35 m.p.h. could be reached without stressing the engine or detriment to the smooth and safe travel which throughout the journey had been an outstanding feature of the performance. On checking up the time and distance at the end of our run, we found that the whole of the mountain route had been covered at an average speed of 15 m.p.h., notwithstanding the fact that second gear had been engaged for over 44 minutes and first gear for 12 minutes all told.

The character of Mammoth-Major performance on this very trying mountain route should leave no doubt whatever as to its ability to stand up to hard and continuous work on average trunk roads where steep gradients are few and far between.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

NOVEMBER, 1938

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THE TREND OF TRADE

How will *Rearmament Speed-up* Affect Business?

By

Cecil Chisholm, M.A.

ONCE again history has been made and business damaged since my last survey. If Bismarck was correct, Germany is the master of Europe through her fortress at Bohemia. Our century-old policy of maintaining "the balance of power" in Europe has gone overboard.

Politically, therefore, we face a new situation.

What does this mean to business?

'Counter' Orders Did Follow Munich Conflab

APART from temporarily shattered confidence at home and our new position in Europe, I believe it will mean less than many people imagine. The most savage effects of the crisis were first felt in retail trade. Even bread and meat sales fell piecemeal during crisis week. There were prosperous beauty parlours which failed to earn a penny for seven days. Yet during the month retail sales increased over last year by 0.9 per cent. Partly we have to thank the hoarders (food sales rose by 4.5 per cent).

Probably food sales fell again during the first week of October, but retail trade picked up surprisingly in most branches during the last ten days of the month.

So the crisis has damaged home trade relatively slightly, and the twelve months' downslide is on the point of being arrested.

Only Pin Money Market In S(ales) E(xtinct) Europe

CONSIDER next our new position in Europe. Clearly we may say good-bye to most of our trade in the south-east. Germany will see to that. Being isolated economically, she requires new markets and new sources of raw material so acutely that she cannot afford to leave even crumbs from the banquet for outsiders.

But what does our trade with South-Eastern Europe amount to? In the first quarter of the year our total sales to Austria, Czechoslovakia, Rumania and Greece were but £3,600,000. In the whole of South-eastern Europe they totalled only around £5,000,000, less than our present restricted sales to Eire alone.

The third result of the crisis will be increased expenditure on rearmament. It is impossible to estimate on what scale expansion will be undertaken. In any case will this expansion mean an immediate 1s. on the income-tax? *The Times* thinks not. But the fear of such an increase weighs heavily on business, too heavily in my view. For this fear is destroying initiative and holding back buying.

A £ Isn't What It Used To Be

FINALLY the crisis has weakened sterling considerably but not disastrously. The Stock Exchange is pleased, seeing American buyers on the horizon. However many stocks and shares we may sell to America, our main export problem will remain untouched by cheaper sterling. For most of our best customers are more or less on sterling, while the American market represents a small fraction, under 5 per cent of our export trade.

What happens in the next six months depends on how far rearmament and the American revival can offset the drop in building and the lower level of export trade. At the end of six months' armament production on the present scale we should reach a peak of employment which will safeguard the worst results of reduced building activity at least. The American revival, if it is maintained, should do even more. The chief problem at home is psychological rather than economical.

Government To Clear Up Crisis Creeps This Way

THE anxiety and timidity induced by these new problems is the worst of the crisis's legacies. Government could help best by making and stating three decisions clearly: first, by defining the scale of its rearmament plans; second, by announcing its policy on income-tax; third, by a brief, rapid and efficient publicity campaign to reassure the consumer.

In fact, our third question—the size of the new rearmament plan—is the key to the near future. Will it demand the highest possible output, even at the expense of civil business? Or will it be a more modest plan, not cramping the style of private business?

Business Men Want To Know

1. **What loss of S.E. Europe market means to British business**
2. **Will the arms speed-up increase income tax immediately**
3. **What mobilisation of industry would mean**

Our economist, Mr. Chisholm, gives his answers to these problems in the article which starts on this page

'Industry Of The Line' Next H.M. Regiment ?

SHOULD it be decided greatly to increase the present programme industry will almost certainly have to be mobilized. Mr. Baldwin has demanded so much with customary vagueness; half of the country's Press appears to support him.

It is therefore conceivable (but unlikely) that in a few months' time industry may be mobilized. This would mean priority certificates controlling the movement of all essential raw materials and mobilization of many skilled workers and transport. It may also mean a Ministry of Supply controlling all armament factories and a Ministry of National Service, deciding the jobs to be done by many workers; a Ministry of Shipping controlling all sea transport. And the Ministry of Transport itself would control all internal transport.

Many readers will recall the working of the Ministry of Munitions during

DAILY MIRROR AND SUNDAY PICTORIAL publish net sales and announce new space rates . . .

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average net sale
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. . . in excess of

1,500,000

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SUNDAY PICTORIAL
average net sale
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1,500,000

New space rate now in operation £540 per page

1916-18, when its rigid control by priority certificates limited the possibilities of private industry drastically. However, at that time we were producing steadily around 2,400 planes per month; a considerable portion of our mercantile marine had been sunk, and we had over 5,000,000 men in the field.

More From Less In Quicker Time To-day

ANY possible new mobilization of industry would be on much less drastic lines. It would have a pool of relatively skilled labour to draw on, including the 460,000 additional unemployed since last year. Further technical advances in equipment would enable the same production to be reached with many fewer workers.

On the other hand, unemployment would be drastically reduced; prices of all essential raw materials, of many foods, and later of most manufactured goods would rise. There would be temporary shortages of many materials but hardly, I think, any long-term scarcity. World stocks are too large, our production equipment too extensive, for any famine in materials.

Meantime a rapid revival of business could be looked for in almost every line outside shipbuilding and cheap textiles. Consumer and luxury trades would boom.

Programme For Big Guns Will Bring New 'Boom'

AFTER the trying period of preliminary adjustment the manufacturer's course would be clear. It would be to take the maximum benefit of the minor boom presented to him by intensive rearmament and, where necessary, to cut luxury lines for necessities or semi-luxuries.

Is it likely, however, that the Government will act so vigorously? I think not: nothing short of a Conservative revolt would allow this sacrifice of civil to military needs. There are as yet no indications of either drastic reorganization of the present machinery nor of any plans for the expansion of arms and equipment output visibly beyond present plans.

Should a moderate speed-up of present plans be all that emerges, what situation will business face?

Workers Are 'Striking' At A.R.P. Profiteering

CLEARLY prices will not shoot up; neither will wages. But symptoms of labour unrest will hardly be eradicated. Reports of profiteering on A.R.P. materials greatly upset many of the workers. (Sporadic stay-in strikes are one evidence of this feeling; unauthorized downing of tools in various factories is another.)

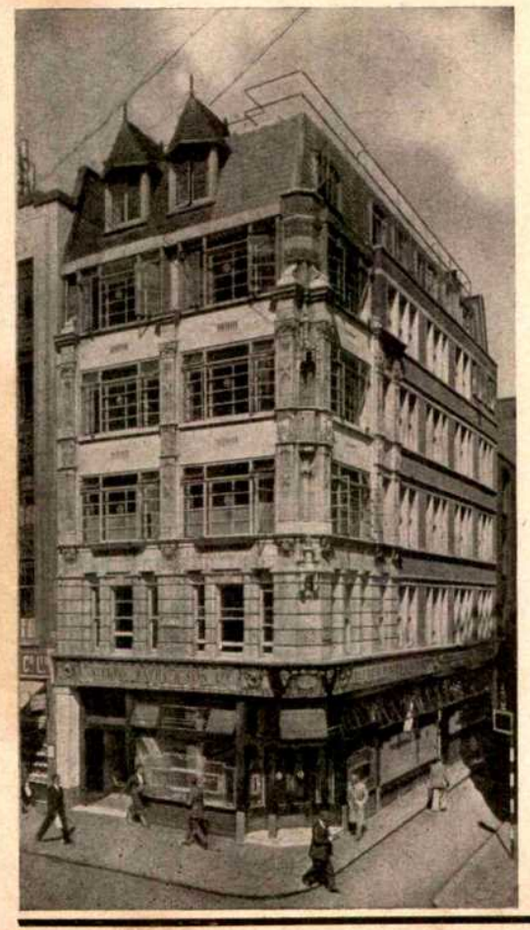
Taxation will not necessarily rise. In other words *The Times* may be right because the total increase in expenditure will not yet necessitate the raising of the £52,000,000 in cash which comes from 1s. on the income-tax. There will be no scarcity of materials, no bottlenecks in transport; employment will improve but not on the scale possible under a virtual labour mobilization.

This technique has enabled Hitler to find work for not less than 5,000,000 Germans. We could easily find work for 1,000,000 of our own unemployed with industry mobilized. But under more normal conditions we could not expect the armament industry to do more than reduce gradually this year's 460,000 additional unemployed by a score or two thousands per month.

With high wages in the armament industries even this more modest programme would offset lower building activity; we could hope to better pre-crisis conditions in the early spring. If the present promise of American revival held we might do even better.

Crisis 'Czechs' U.S. Policy Of 'I Want To Be Alone'

FOR the restoration of American confidence is the one bright feature of the past month. The German action in Czechoslovakia has startled the



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American public out of its isolationist's dream. It has rallied all parties round the President. His personal prestige stands higher than at any time since his re-election in 1936. This means that his danger from this month's election disappears.

This means that the utilities will now release their long-hoarded resources for overdue capital development. Given this sweet reasonableness, nothing can stop a big American revival, for the money is there awaiting an opportunity of investment.

By raising commodity prices an American revival would benefit almost every raw material producing country in the world. Incidentally it would hearten every British stockbroker and every British industrialist.

The available facts about the situation in September are a little confusing. Employment held up remarkably well, showing an improvement on the previous month. Yet the fall in foreign trade was dangerous, not being entirely due to the fall in prices. Worse still, very heavy falls were recorded in raw materials imported (by weight)—always an ominous sign for the future in Lancashire and Yorkshire. Building plans fell ominously by 25 per cent, as against an average fall of 9 per cent.

Time Now For Steel Trade To Cut Price

MORE encouraging is the stoppage of the rot in the steel industry, which staged a surprising come-back in

The New Business Activity Index

CERTAIN factors in the economic life of the nation, formerly were of secondary but now of primary importance, are becoming widely recognized. Primary amongst these are building and motor-car industries.

Any up to date index of business activity must recognize these as well as the fundamental and accepted indicators of economic trends. With this in mind we have reconstructed our index of business activity. The charts published in our last two issues and in this number are based on the new formula.

We have retained our former geographical divisions, with two exceptions: N. England is now treated as a unit; the Midlands and Wales are treated as a separate unit.

On the regional indices the factors used are: *Unemployment*, always the most important indicator; *Bank clearings*, where these are available; *Retail sales*, an invaluable indicator of purchasing power and, consequently, of industrial activity; *Commercial car* licences which have been shown, statistically, as a veritable barometer of industrial activity. In addition to these factors wherever possible we have incorporated the official figures for building plans passed.

Our national index has been completely revised and extended. The charts now represent a very wide selection of factors which reflect national economic life. All factors used in the regional indices have been repeated. In addition the following factors have been incorporated: coal, with iron and steel production (now as ever the very foundations of our national company); import and export figures.

Official figures have been used throughout.

Reading the Indices

For these new indices the average business activity in each area during 1933 is taken as the base (=100). The indices are given by months.

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August; it looks as if rearmament and building activity would quickly revive the industry, if it could be induced to reduce prices reasonably. Indications are that the motor trade and shipbuilding trades have received some price concession.

Let us hope that they will be passed on to motor consumers. The prices of cars at Olympia hardly suggest this. The failure to reduce small-car prices is only less remarkable than the astonishing rises in higher-powered vehicles. This policy may be "safe," but it will never bring back the 15 per cent margin of sales lost in 1938, nor will it assist revival throughout the country.

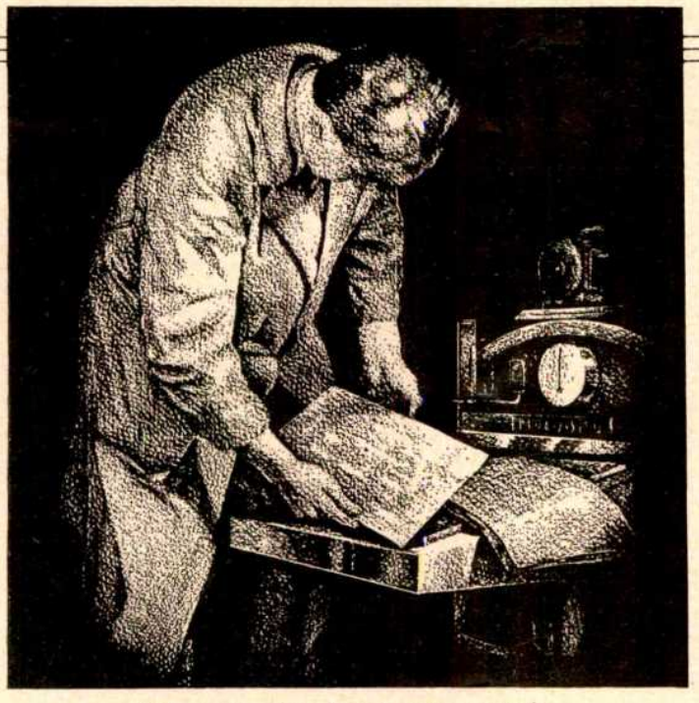
'La Belle France' In Trouble Again

IN Europe the crisis caused a setback to business in every direction. In particular it has greatly increased the troubles of the French cabinet. Faced with a £220,000,000 deficit, continued labour troubles and rising costs of production are urgent rearmament requirements, their position is unenviable.

In the Empire, too, rearmament is looming on the horizon. Australia is already beginning to feel the effects of higher wages and shorter hours, and rising costs of production. New Zealand has re-elected its Labour Government with the same majority and will eventually face the same problems as Australia.

In Canada and South Africa the outlook is better, since there are no signs of costs outrunning the policeman.

Whatever be the scale of British rearmament, whatever the impetus of American revival, the main interest of every business is to assist in that restoration of confidence which must precede any genuine improvement. The means are to hand. They are normal buying and more than normal hard selling. The wheels won't get going again of their own accord! Nor can I buy from you if you don't buy from me.



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Marketing TRENDS . . .

'Pack Up' Your Product If You Want More Sales

LET us probe packaging problems this month. The trend is for packs to have a bigger influence on sales volume than they did in the past. The public is showing more interest in ingenuity, attractiveness and usefulness of packs; manufacturers are loosening purse-strings to put products in fashionable dress. And about time, too.

Instances of packs having vital influence on successful marketing of products are many. "Black Magic" chocolates (Rowntree & Co., Ltd.), Hodder & Stoughton's black-and-white books, Sheriff's "Lushus" Jellies, are three recent cases. In the past eighteen months many articles in BUSINESS have shown the importance of pack design on sales.

Sales By 'Design' Is A Good Marketing Policy

YET the value of pack design is still underestimated by many British manufacturers. They stick to old packs; primarily they believe in the value of their goods. Which is sound; but not "sound" enough. To sell, goods must proclaim themselves, and there's nothing like a top-notch pack to attract attention.

If you're not convinced, listen to a parable. Two merchants set up in business. One sold diamonds in rough, uncut form; the other sold imitation stones, polished and scintillating. And 99 per cent of the great British public bought the paste stones. 'Nough said? Then see that your products are not playing the uncut diamond in an inexpert market; design a pack to give the needed polish.

Fibre packaging case for tea set; Silver Award for constructional ingenuity. Illustration shows one wall ripped away to reveal packing.

Case accommodates 21-piece set in compact, efficient form; it supersedes bulky hogsheads and wooden cases with straw or wood wool as internal packing. Designers: Eburite Corrugated Containers, Ltd.

Out Of Eye, Out of Mind, Is Modern Selling Adage

MAYBE it is a pity quality and value alone are not enough. But don't blame the public for that. The diversity of products on the market is confusing; the standard of manufacture is, in so many instances, level or thereabouts. John Citizen, ignorant mostly as to real values, qualities and materials involved, is forced to select empirically; more so every day as the choice is enlarged. Small blame to him, then, if he chooses for trial goods which attract his eye.

Camera Studies: How To Make Goods Attractive

STUDY prize-winning packs of lines on the market. They show some of the best examples of attractive, well-designed and useful packs. Some are winners in the Second Annual Awards for British Packaging, organized by the magazine *Shelf Appeal*.

Maybe you can learn something from these packs—a new way to package your product, a suggestion for re-styling your existing packs, ideas for display schemes, etc.

The packs are prize-winners among 850 submitted. As many were entered under several classifications, something like 2,500 separate decisions had to be made by the judges.

These Hints Might Help To Increase Your Sales Volume

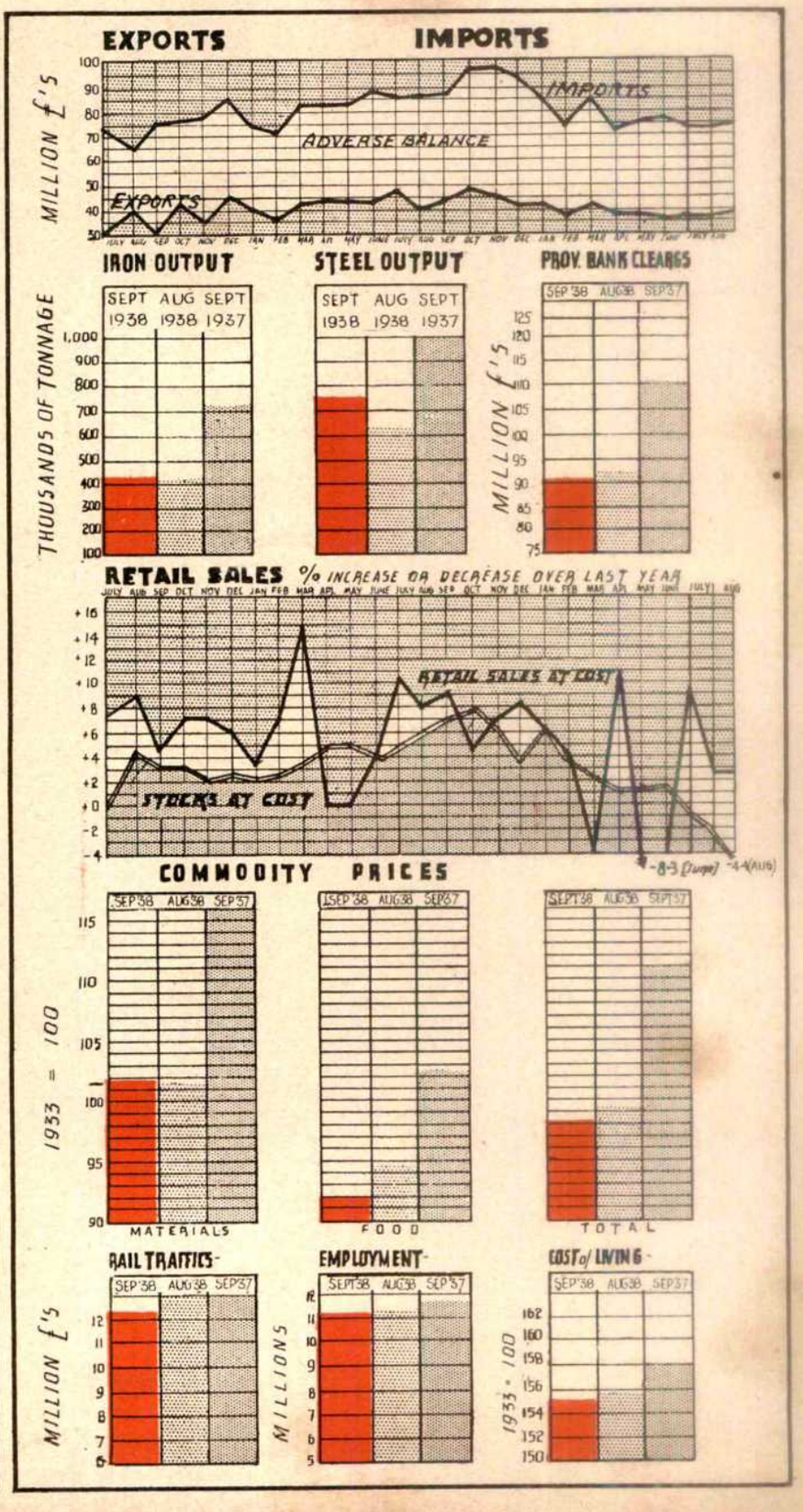
COMMENT by the judges is of interest. In the lettering section, for example, the report says there is "the tendency to outline lettering unnecessarily, to distort it, turn curves into angles, add curlicues, exaggerate ascenders and descenders, confuse passable lettering with rules, odd-shape backgrounds and the like, to set masses of copy in capitals with too little space between the lines".

That is a criticism by which you might measure your packs. Do they satisfy you in this respect?

Comment on decorative design is: "Very few entries . . . showed in their design any appreciation of the pleasant and interesting textures and colours made possible by fancy papers." There is another useful hint. Can you use it?

GUIDING FACTORS IN THE TREND—

All comparisons are with similar month in last and previous in this year



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9. **Survey of Major Industries.**
10. **Index of National Manufacturers & Distributors.**

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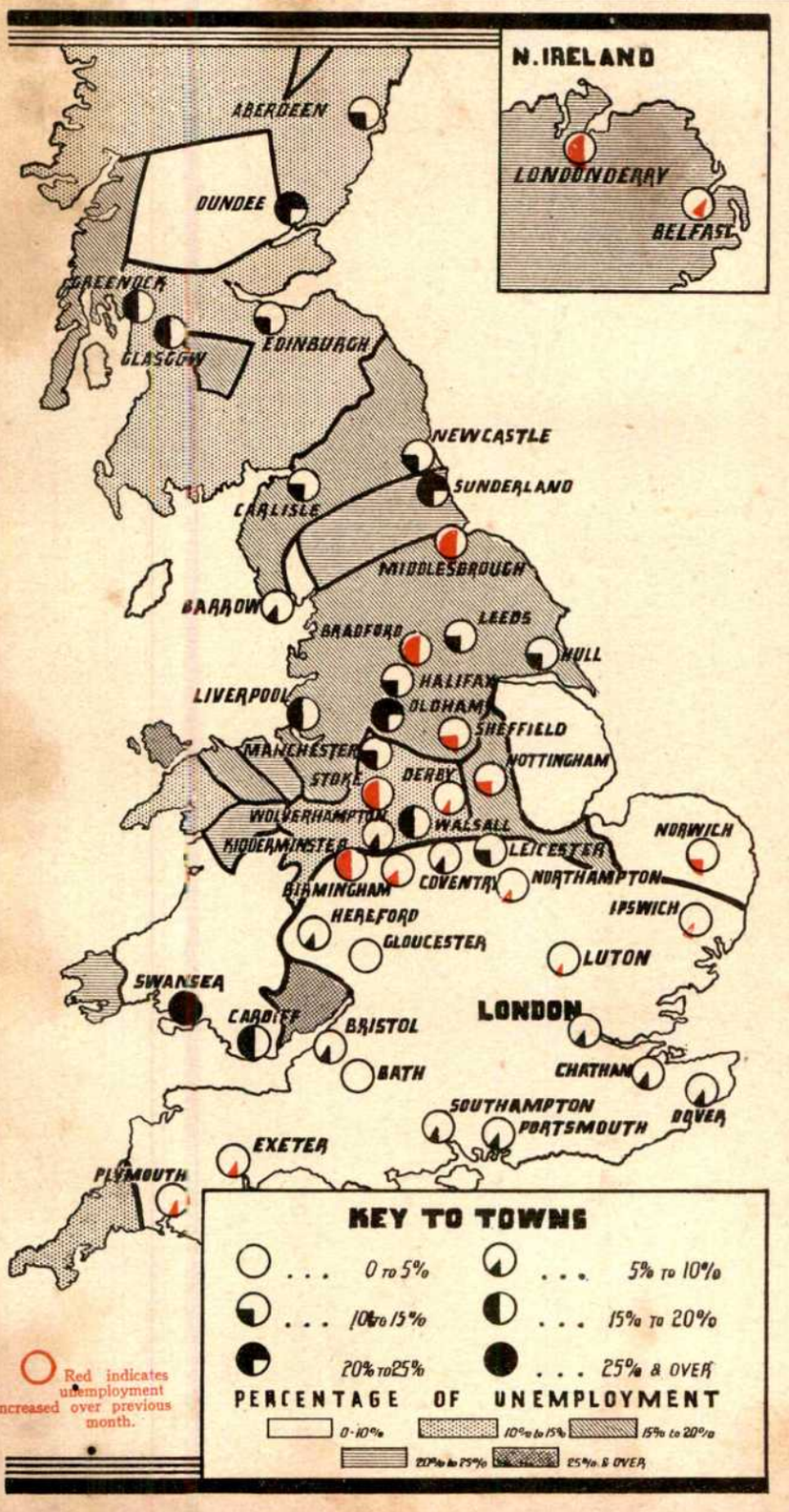
Here's *NEWS* of Active Home Markets

Motor Show, London, has brought big orders to manufacturers; on opening day over £20,000,000 worth of cars were bought; attendance has been much bigger this as compared with last year—About £10,000 is to be spent on bridgework by Hendon Borough Council—Superheater Co., Ltd., London, has orders for five superheater heaters and 692 superheater elements from Bengal-Nagpur Railway; also other orders from the East—A.E.C., London, orders totalling over £100,000 for transport equipment from Brighton Transport Committee—Hackney are to carry out a £256,000 development scheme.

War Department Has placed orders for 300 searchlight vehicles with Guy Motors, Ltd., following recent order for over 400 lighter-type Guy Ant cross-country machines — Harrinton (Hove), Ltd., have received £8,000 order for bus bodies from Brighton Council; town has also ordered over £10,000 worth of bus bodies from Metropolitan-Cammell-Weymann Motor Bodies, Ltd.—Eastern Coach Works, Ltd., Lowestoft, have recently got orders for 109 single-deck and 48 double-deck bus bodies—Essex C.C. are to carry out traffic signal schemes costing about £5,000—Herts. C.C. at a cost of £60,000 are to carry out a scheme of road widening—Woolwich plan a road and sewer scheme costing £16,600—Road and bridge construction, costing over £45,000, is to be undertaken by Enfield U.D.C.—Malden intend to spend about £14,000 on street widenings.



Orders For Vehicles continue to flow in to Leyland Motors, Ltd., Leyland, Lancs.; recent batches total over 100—Halifax is buying 36 A.E.C. double-deck chassis—Ibbotson Bros. & Co., Sheffield, have received orders from Bengal-Nagpur Railway for 50 engines and tender buffers—Salford is buying over £35,000 worth of buses—Yorkshire Engine Co., Ltd., Sheffield, are making two superheated boilers for the Jodhpur Railway; Brown, Bayley's Steelworks, Ltd., also Sheffield, have orders for steel tyres for locos. from Bombay, Baroda & Central India Railway.

Leicestershire's Sheep, Pig population has increased since 1933, the percentage rise being 6.7 per cent and 3.9 per cent respectively; cattle, however, have declined slightly, the figure being 0.8 per cent—Scunthorpe works extensions to United Steel Co.'s plant is likely to involve new capital amounting to about £6,000,000—British Steel Constructions, Ltd., are building a factory at Redditch; work will cover a two-year period—Extensions to Leicester Royal Infirmary will cost £90,000—At cost of £157,000 a new school is to be built at Bestwood by Nottingham City Council—About 76 houses are to be built at a new housing estate at Lincoln—In the next five years Norwich is to spend over £3,000,000 on road construction and education.

About 1,000,000 Yards of cloth are being supplied the Government by Lancashire cotton manufacturing firms—Blyth is to have a new general hospital costing around £50,000.

Factory producing wire machinery guards and wire baskets has been opened by Northern Wire Works at the Team Valley Trading Estate, Gateshead—At Crook, County Durham, a new timber factory will begin production in a few months.

Latest Industrial Building at Bristol includes: offices and warehouse for Marsham Tyre Co.; warehouse at Brislington for Colthurst & Harding, Ltd., paint manufacturers; warehouse for Albion Paper Products. Other building plans passed include: 22 semi-bungalows at Eastville; 82 houses on the Castelfields estate—Bristol's revenue turnover for the past year was £5,940,732—For the half-year Bristol leads in amount of money saved in P.O. Savings Bank with £893,000, an increase of 9.8 per cent; Liverpool is second with £772,000.

At Cost Of £120,000 Rodney works, part of Filton Aeroplane works, is to be extended for more rapid manufacture of exhaust rings for Bristol engines; extensions also being made at premises of Aero Engines, Ltd., Kingswood.

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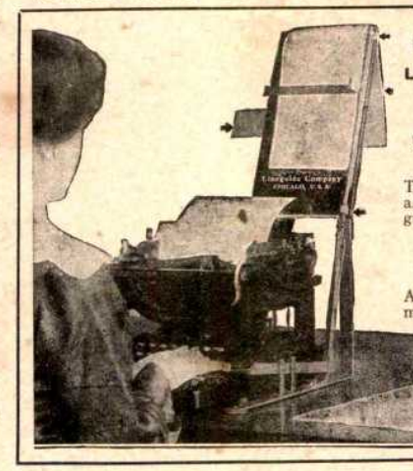

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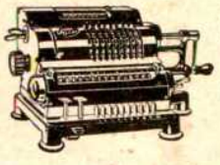

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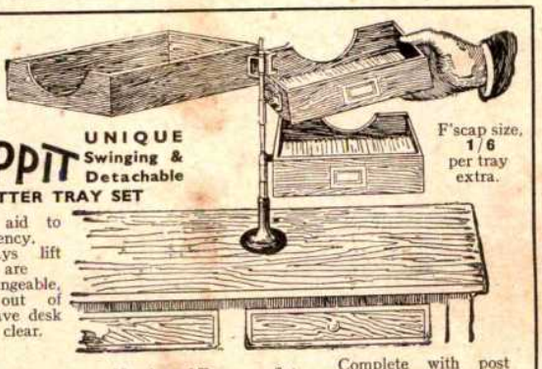

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AN INSPIRATION FOR THE BUSY MAN

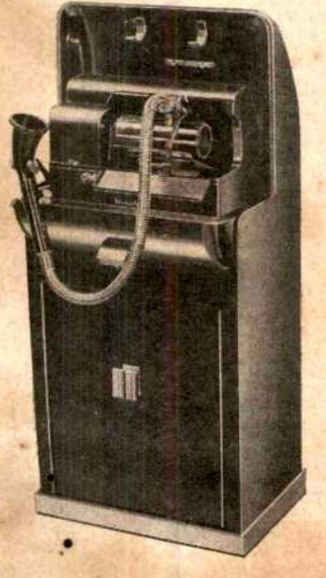
By THOMAS DIXON

THERE are curious contrasts in the reaction of different minds to any idea that is unfamiliar.

To the man of an eager, inquiring type of mind that which is novel is always attractive. He wants to see it, to examine it closely, to get to understand it. To men of the opposite type the novel is repellent. Their minds run in long-accustomed grooves: what is new and strange makes no appeal. The fact is that they do not wish to be disturbed. They think that what is "good enough" is best. The modern wave of progress washes over their heads and leaves them submerged.

Under the relentless pressure of events, minds of the former type are rapidly dominating business to-day, simply because they have realized that what has been "good enough" in the past is entirely inadequate under modern conditions.

It is this new spirit that makes so many converts among business men who see The Dictaphone in action for the first time. The man of an alert and progressive temperament realizes that in the dictating machine he is offered a new and better way of doing an old and essential job.



About The Dictaphone system there is a convincing simplicity and directness that must make a powerful appeal to the man who realizes that the saving of time is the very foundation of the modern science of business efficiency.

How does *your* mind react to The Dictaphone idea? Are you receptive of the idea of "getting things done better"? Are you one of those who realize that old methods, old devices, are not good enough for to-day?

Not only is The Dictaphone a means of enabling you to do your work better: it is a positive inspiration to enable you to get others to do more. In other words it gives you a new means of getting things done by others which you cannot hope to do yourself. *It increases the value and potency of your executive ability.*

That is its real secret. There is an iron limitation on the amount of work which any man, however energetic, can hope to do by his own efforts. Give him, however, a thoroughly efficient means of *setting others to work to carry out the ideas he originates* and you can set no limit to the field of his achievement.

That is where The Dictaphone excels —as a means of multiplying executive ability.

Also get particulars of the Dictaphone Telecord. It gives you a perfect record of all telephone talks and messages, saves time and lessens congestion on the lines.

In a few words of swift dictation the executive can instantly set in motion every good idea that comes to his mind. Without haste, without waiting, without a second's delay his thought is *documented*. No waiting for a shorthand-writer, no laborious writing of notes, no trusting to the memory. Just a few spoken words and the *idea* is safe. It may be a letter. It may be a voluminous report. It may be a record of an interview, or a telephone talk. It may be a dozen words as a reminder. Whatever it is, it is caught by The Dictaphone instantly, at the very moment of its birth, while it is fresh in the mind. And the job of carrying out the idea is placed clearly and unmistakably before those with whom the responsibility lies.

That is the modern way, not of *writing letters* but of *conducting business*. The writing of letters is merely a sideline in The Dictaphone's activities. It is true that the average shorthand-writer will handle dictated matter with reasonable efficiency, though, of course, all the time she spends in taking down letters is absolutely wasted. But not even the most expert shorthand-writer could sit for twenty-four hours a day by the desk of the executive, ready at any instant to catch infallibly the fruits of his executive thinking.

That is what The Dictaphone can do and is doing for many thousands of business men—saving their time, saving their labour, giving them a new power, saving their money. That is why over 260,000 business men dictate to The Dictaphone.

Is there no inspiration *for you* in the story of The Dictaphone? Let us show you on your own desk, in your own work, free of all cost, just how The Dictaphone will inspire you to "do things better."

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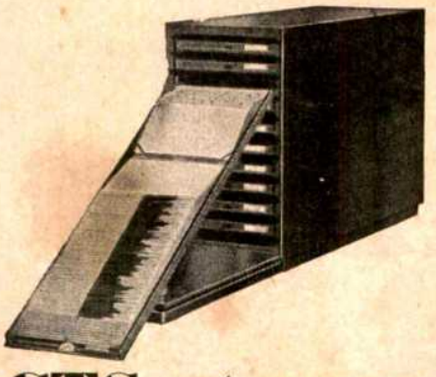

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Incorporating "The Magazine of Commerce", "Modern Business", "System", "Business Organization and Management"

No. 12

DECEMBER, 1938

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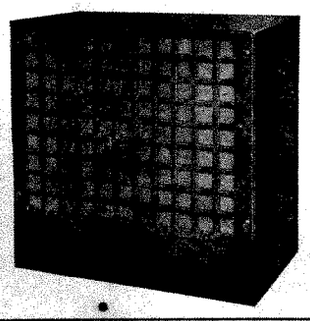

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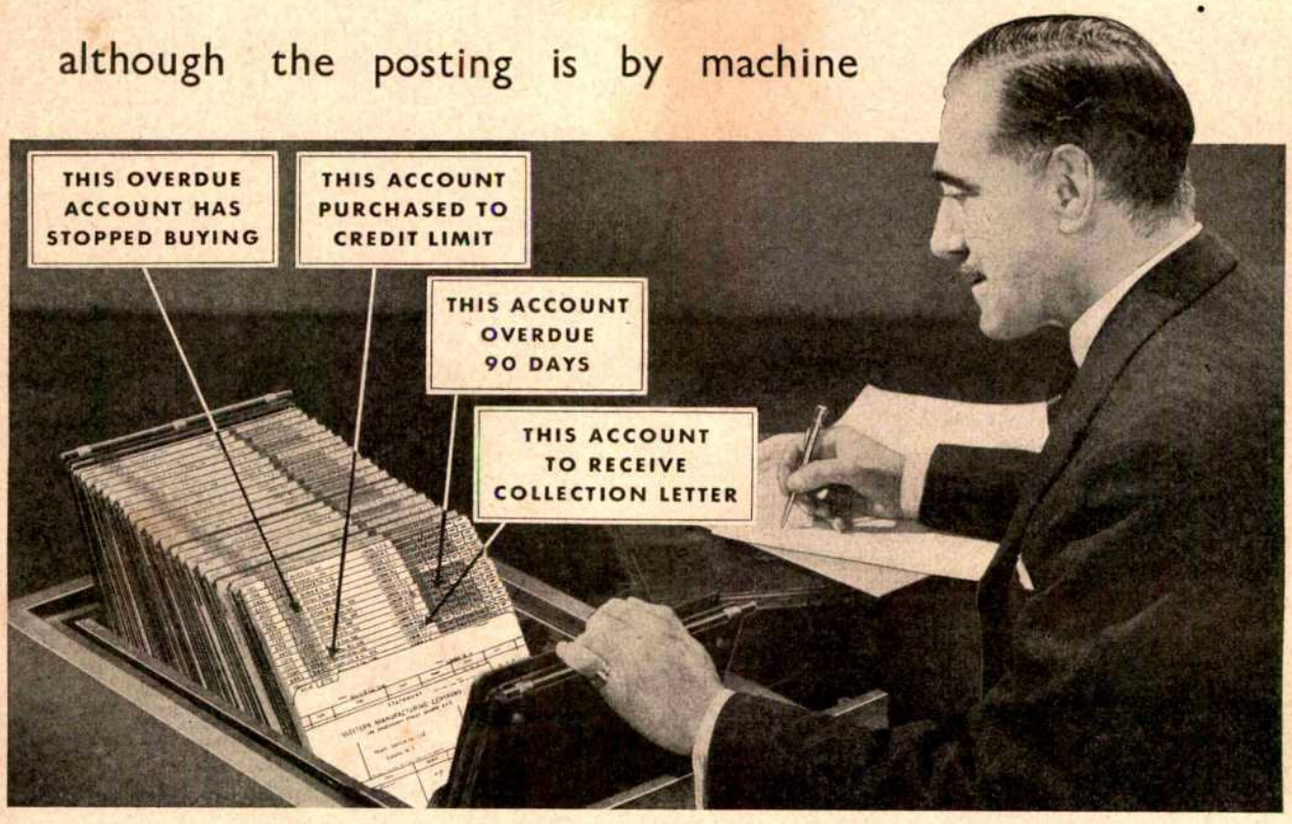

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Modern Business Methods

Can Provide a Simple and Effective Form of National Register

says

GRAHAM CUNNINGHAM

Managing Director

'Triplex' Safety Glass Co., Ltd.,

NATIONAL preparedness is such an important thing to-day that it has brought about that great rarity—complete agreement between all political parties as to its absolute necessity.

There are, of course, points of difference about just how we should achieve this state, and while it is not the purpose of this article to review the problem in its fullest sense, that is, its political sense, I should like to deal with some of those aspects of its machinery and organization which so completely broke down in our recent crisis.

The regular fighting services of the country are quite out of our field of discussion. Well-run machinery has existed for many years to cover these services and their activities.

It is with auxiliary services of every kind that we are concerned, and no one will deny that the recent crisis produced a chaotic state of affairs which, apart from other considerations, made it indeed a blessing that catastrophe was averted—at any rate for the time being.

The outstanding need of the moment, therefore, is that our abilities should be bent to the tremendous task of organizing the man- and woman-power of the nation in such a way that the best use is made of the abilities of everyone at the most appropriate time.

The Will is There : It Needs Harnessing

The ability, or the capacity, or the patriotism of our people has never been called into question, and it need not be reiterated that every man and woman definitely *wants* to utilize to the utmost any and every ability he or she possesses—always provided that such abilities are known, identified and classified in such a way that the clearest possible official instructions can be given to the public as to how best it could serve at any given time.

It should be clearly understood that persons possessing more than one ability may, in different circumstances, be called upon to serve in different ways.

Before outlining a method that would make such organization possible it will throw some significant light on the matter if we review past history and see what has already been done in this connection. We do not make this review in any carping spirit; but it is only by examining the past that lessons can be learnt for future guidance.

The first lesson to be learnt is the attitude of Government Departments to Local Authorities.

Take any example you like where the Government instigate local activity—Quinquennial Valuation, the operation of the Housing Acts of 1935 and, latest of course, A.R.P. In each case the appropriate Ministry made demands on the Local Authority for voluminous information. These Ministries must know that, as the information is required in the same way from nearly 2,000 separate Local Authorities, there should be one best way for each Local Body to set about collecting the information. One would think that a Ministry, with all the facilities of the Government behind it, would be able—even eager—to instruct the Local Authority as to the most effective and economical method of carrying out its requirements.

Yes, that is what a business man would presuppose. But let us review A.R.P. as one example of how the Government failed to give this lead—any kind of lead—in this most important matter.

Before being too critical, however, we ought to concede one factor which might be cited as the Government's reason—or excuse—call it what you will, for not giving a lead. It is that, under the present arrangement, the Local Body has got to pay for its own work. So, having, as it were, to pay

THE NEXT MOVE

A Register of Industrial Man-Power is needed as a vital factor of national defence. This article explains how Modern Business Methods can make its compilation a simple matter.

Merely to decide on a Plan or System for the Register is, however, not enough. The urgent need is to start it working NOW, while there is no crisis, and we have the chance to do it intelligently.

HOW shall this be done?

Next month Mr. Cunningham will suggest how it could be done, how the Plan might, as it were, be slipped into first gear as a vital beginning to a progressive co-ordination of industry for national defence.

---

the piper, it is also given the responsibility of calling the tune.

The result of this arrangement is complete lack of uniformity. There are spectacular variations, not only in the cost of the work but also the quality of it, and the time taken to do it.

Whether or not the Local Body should pay its whack is not for me to discuss here. But I do suggest that if the Local Body must pay, then let it pay its own part of a properly standardized and therefore inexpensive method which can be cheaply and quickly put into effect.

Bearing on this point of A.R.P., a leading Municipal periodical (*Municipal Journal*, 11/11/38, page 2474) says:

> "A.R.P. . . . there has been too much recrimination on past events and too little constructive thinking for the future . . . what Local Authorities want is a definite lead from Whitehall, and it cannot be said that they have had that."

Local Authorities Did Their Best But . . !

The arrangements for A.R.P. were left, as I say, to Local Authorities, with no lead at all from Whitehall. The inevitable result of this was that the Local Authorities delegated A.R.P. work to any available Local Departments, without very much constructive thought as to their fitness to undertake it.

Although Whitehall did certainly *suggest* the appointment of A.R.P. officers, still it gave no definite lead, so A.R.P. found its way into the hands of a fine array of well-meaning local autocrats. In some areas the Police Departments were responsible, in others the Surveyors, in yet others the Fire Brigades, the Engineering Departments, Cleansing Departments, Rating and Valuation Departments, the Medical Officers of Health—and in at least one case even the Education Department.

Some of these sections have A.R.P. Officers. Most have not. Some have records or registers. Others have none. Some registers are kept on reasonably modern card records. But how and where some others are kept is something to which we will not draw attention just now.

And all this because local people with their knowledge, or lack of it, were left to utilize their own ideas about carrying out an important national work.

This somewhat destructive criticism has not been aired in any spirit of condemnation. I have simply indicated the position in order to show how immensely valuable would be the application of modern business systems that are already *successfully* doing similar types of work.

Let us now therefore be constructive. Just *how* would Modern Business apply Modern Methods to this vital work?

It goes without saying that a National Register, which is happily now not only suggested but more or less agreed on, properly inaugurated and kept absolutely up to date, would be of enormous value in an emergency.

It would enable the nation to mobilize and utilize its every resource and to plan the life of the country so as to meet all possible emergencies both in man-power and in the distribution of essential materials.

Basis of the System Must be DE-centralization

Who shall make and keep this Register, and what form shall it take? (The compulsory *versus* the voluntary aspect is not being considered. This was ably argued by Lord Snell and Mr. L. S. Amery on Saturday November 19, with Lord Sankey in the Chair. The need is therefore agreed by all parties. We are concerned with the application of Modern Methods of recording for speedy mobilizing purposes.)

The answer to the first question is again: the Local Authority, as they are in closer touch with the man-power of the various districts and understand the best ways of applying it to meet an emergency. They can more readily keep it up to date by recording removals and changes of abilities, capacities and availability of personnel.

Centralization under a Ministry is impossible for many reasons, chief of which is lack of flexibility for intimate local needs.

Before we give the answer to question two we must decide what the register must do.

First it must show the more obvious details as to name, address and occupation. It should then go on to cover personal qualifications and interests in so far as they are likely to be useful for any purpose in an emergency, and it must show the availability of the individuals concerned.

Only in this way can persons be mobilized for any particular one of their total number of qualifications, and at any particular time or times.

Nation-wide Uniformity is Easy to Arrange

The Register should be uniform throughout the country, so that every movement and change can be recorded, i.e.: in the case of removal from the area, the actual record card would be transferred to the new area. Each person could be provided with a postcard setting out changes, and this would be sent to the Local Authority as and when necessary.

As a nation we are already quite used to this sort of procedure. It is applied largely to National Health and Unemployment procedure. We also notify Local Authorities (and Rating) and the Post Office (for the re-direction of letters) when moving. Co-operation in this matter would therefore be easy to secure.

Any development in the way of Local or National Service can then be promptly dealt with for each individual man and woman.

The system I have in mind for this Register is, to all intents and purposes, a simple card index record. It is what business executives know as a document of original entry. It can be taken, by the people appointed to collect the data, from door to door if necessary, and entered up on the spot.

With this system no other lists or copying or creating special cards is necessary, and, once the format of the cards is decided on and standardized, the cards would be suitable for sorting or classifying at a rate of many thousands per hour.

If a standardized card should be decided on—and it is a very easy matter to do this—Local Authorities everywhere could benefit from a uniform system at lowest possible cost because bulk orders on favourable terms could be placed by some central purchasing authority.

I am not suggesting anything revolutionary for our National Register. Business has already proved the enormous capacity, the great flexibility and yet

(*Continued on page 24*)

The First Essential in *GETTING INSTRUCTIONS CARRIED OUT* Is to Have The Right People in the Right Jobs

says

DOUGLAS J. BAILEY

Managing Director,
Swiss and French Hotel
Plans Ltd.

in an interview

IN any business undertaking, if there is to be a consistently good standard of carrying out instructions, I believe the most important requirement is that personnel be rightly fitted in their jobs.

This applies throughout the whole staff; from the highest sectional or departmental executives down to the rank and file in the office or factory.

Putting such stress on having the right kind of people in the right jobs may seem, to some, like over-emphasizing the obvious. From my experience, however, I feel that this factor is *not* appreciated as "obvious" to anything like the extent it should be.

Unless people are in positions, and doing work for which they are most suited, and in which their chief interest lies, then they will never grasp an instruction as fully as they ought to do, or carry it out with complete efficiency.

For this reason it is a basic policy of ours to exercise every possible care in staff selection, both for executive and routine positions.

This is Time Well Invested

In the case of executive positions especially, I consider that time is well invested if careful search is made for men whose general temperament and natural interest, as well as mere ability, are in harmony with the type of work which they will have to do.

In businesses where seasonal high peaks of intense activity occur—as they do in our case at the main holiday periods—the management should tackle well beforehand any question of extra staff that may be required.

Special care in making such arrangements in advance will be amply repaid by smoother, more efficient work when the pressure is at its highest.

To wait until the rush is on, and then to use all speed in engaging staff to meet the peak is to invite trouble. Months of careful building and development of staff efficiency carried out in normal times can easily be ruined by such short-sighted and precipitate action.

In our organization it is particularly important that instructions should be carried out in completest detail and to time. And for this reason. The action that follows almost every instruction we issue *directly affects the customer.*

In manufacturing concerns this is not so to the same extent. A great proportion of a manufacturer's instructions have their effect *inside* the organization only. For example, an instruction issued in regard to a process has its effect in the works, it will probably not go beyond. Any failure on it will show up in the production department concerned, or at least in some related department. Whatever the fault involves, therefore, it can almost invariably be settled by internal adjustment. Relationship with customers is not put in jeopardy.

But with us, if an instruction "misfires," the result is practically certain to affect customers directly. It will be realized, therefore, why we take such care in selecting the type of personnel who *can* carry through with instructions.

Responsibilities MUST be Realized

In addition to this initial care in selection I consider it is highly important that subordinates should understand the full purport of instructions, i.e., why they are issued and the responsibilities they involve.

This point about responsibilities perhaps needs a little enlargement.

Our service is to provide the public with fully-arranged tours abroad. That may read like a fairly simple statement. But the range of responsibilities involved in such a service are enormous.

The Detail Involved is Enormous

Last summer, for example, we arranged foreign holidays for more than 20,000 people from this country.

Twenty thousand people, each and every one of them, from the moment they left their homes till they returned again, absolutely dependent upon our organization for practically everything. They were in our hands not only for the times of trains but even for the individual seats in those trains; not only for hotels, or even bedrooms in those hotels, but for the actual location and style of those bedrooms, i.e., facing south, balcony or no balcony, first floor, top floor, and so on. Each and every person depended on us unerring to find at all times his or her particular luggage among some tons of similar baggage and to place it in the right train, over exactly the right seat and later to deliver it into exactly the right hotel bedroom at precisely the time it was wanted.

Equally accurate direction had to be maintained over passports, Customs clearance, food, excursions, in fact over the whole range of personal convenience and happiness of twenty thousand different people with likes and dislikes, whims and fancies sufficiently various to represent the entire expanse of human needs and peculiarities.

Obviously, in such circumstances the chance on our part of error, oversight, or unexpected factor is very great indeed. And when it is realized that

This British organization, with executive headquarters in London, was formed in the summer of 1935 to bring holidays abroad within the reach of people of modest means. So rapidly has the business expanded that in 3ye ars *turnover has increased* 20 *times*. And whereas, originally, continental holidays were provided only in Switzerland, this was soon extended to France and Belgium. Now, further expansion plans are in hand to cover other foreign countries.

even one small error would reflect at once as a blow to the goodwill existing between ourselves and our touring customers, it will be understood what that word "responsibility" means to executives in our company.

It will be quite clear, therefore, why it is so essential that the whole reason for, and the circumstances surrounding, instructions should be adequately explained.

However carefully organized and controlled a company may be it is not, of course, possible to eliminate entirely complaints from customers.

Complaints Can be Used to Stress Responsibility

But in addition to settling complaints promptly and in a generous spirit, complaints can be used constructively in strengthening and improving the company's methods. They can also be used to reinforce the policy of getting instructions carried out.

I reserve it as part of my work to deal personally with any complaint received. In the first place I believe it is much more satisfactory to the complaining customer to have his case dealt with by the head of the company. Secondly, I believe a chief executive can learn more about his company from legitimate complaints than he can from any other source.

It is not my purpose here to go into the detail of actually meeting complaints, but rather to show how they are used to emphasize the need for strict attention to instructions.

When a complaint has been settled we always hold a post-mortem on the matter. How did the complaint arise, why, whose fault was it, or was it a weakness in the system.

All executives are present at these examinations, and if by any chance the fault was due to a failure to follow out an instruction then the consequences (inconvenience to the customer, cost in prestige, and/or cash to the company, etc.) are emphasized and constructive advice is given with the object of preventing a recurrence of that failure.

This Is a Better Method than Censure

I think, in any kind of business, it is a good thing to parade the actual consequences of a failure to carry out instructions. However the fault arose I believe this method more impressively demonstrates it, and the need for its avoidance in the future than any amount of mere criticism or censure could do.

In my opinion criticism and censure serve only to discourage subordinates, a very unwise thing to do to people who have been selected with care and whose initiative and responsibility it is the object to develop.

Because, as I have indicated, my subordinate executives have a first-class ability to carry out instructions and because they so fully realize their responsibilities in this direction I personally find no need to spend much time on following-up.

We have a secondary plan of follow-up, however; more with the idea of a double check than anything else, because, as I have shown, so easy is it for customers to be directly affected that it is essential to take every possible safeguard against this happening.

We have, therefore, two responsible people whose sole work it is to survey every department in the organization, keeping an eye on the progress of every instruction issued and on every point of important routine.

This constant supervision acts in a double capacity: (*a*) as an effective safeguard against oversight and (*b*) as an "urging" power to ensure that every activity works to scheduled time.

Those two "floating" executive supervisors—we have no special title for them, but that is as good as any—are important key men. Much of my contact with the organization is through them. In effect, they save me a good deal of personal follow-up which might in other circumstances be necessary.

Finally, I should like to say that I agree with Mr. M. M. Gilbert in the opinion he expressed in this paper last month: that instructions are most effectively carried out *only* when they are intelligently given. Employees of every grade, I am convinced, work best when they are told the "*why*" as well as the "*how*" of an instruction.

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Paying Estate Duties, in Advance, by Instalments

A Vitally important article for all executives. It explains how to relieve your heirs of the burden and worry of Death Duties.

See Page 32

For the *Quieter Hour . . .*

from **ROBERT R. UPDEGRAFF**

Author of "Yours To Venture"

Anxiety for profit or advancement almost automatically defeats the making of either, unless it operates to cause one to make more careful and adequate preparation.

The times of greatest discouragement, when it seems that there is no way out but disaster, are often the times when Fate takes matters in hand and changes the course of events in some unexpected fashion—sometimes simple, sometimes spectacular.

People who must be told specifically what to do and how to do it will always receive a definitely specified wage or salary. It takes imagination and initiative to break over the low-salary or low-wage fence.

I think it probable that very few of the world's masterpieces—literature, music, art, inventions—were produced under ideal conditions. Rather, I surmise that most of them were produced under trying circumstances, either physical or mental, and that they owe part at least of their vitality to this fact.

There are on the shelves of industry, and in the filing cabinets of research departments, many new products or new substitutes for products that are not on the market to-day. But let the price of some staple or standard product go up beyond a certain point—and out will come these new or substitute products. Their level of value having been crossed, they will become competitive.

Genius is not always a matter of doing something unusual. Sometimes it amounts only to genius in insisting that something unusual is possible to achieve, and persisting until someone has produced or achieved it.

Until objectives are turned into a plan for action they have little magic.

The fact that a thing has always been done a certain way is almost proof positive that it might well be done differently and better.

If you are dead sure of all of your ideas, they certainly are not fresh ones, and the chances are you have swallowed someone else's.

If business had to advertise publicly for what it has to buy, as it does for so many of the things it has to sell, people would have an entirely different idea about its broad importance in the scheme of life.

Management *Causerie* . . .

By
The EDITORS

Room for WORK: 'Silent as if 100 ft. underground, fresh as if in open country'. That is how the executive who works here describes his office. Scientific sound-proofing, sealed plate-glass window, air-conditioning, 'daylight' effect through artificial top-lighting are some of the factors which make these ideal working conditions

Public Relations as Business-Builder

ONE of the big things for the future in management is Public Relations. We all know of its success in the Post Office in recent years. Few people, however, understand just how to apply it in a business firm.

Of course it covers a very wide field, but it is, at the same time, a self-explanatory factor. It might be summarized as: "formulating and maintaining good policies and keeping all interested people (employees, shareholders, customers, and the general public) informed of the aims, objects, and methods of the company.

We heard the head of a concern we visited recently utilizing one very important factor of Public Relations, though he was not aware that he was doing anything of the sort.

This managing director was giving his monthly talk to the works staff. Here is the point he brought out:

"Your foremen, your managers and your directors do their best to supervise your work in a constructive, helpful way. Always remember, however, that you should work—not primarily to satisfy your foreman or your manager—but to satisfy the customer who buys what you have made.

"Regard your foreman or manager as someone who is present to help and advise, but think of yourselves always as *directly responsible to the customer.*"

That is one point of Public Relations in operation. It stimulates the staff to realize that their true responsibilities lie in good service to the public, and not merely in doing some unrelated job in return for a certain sum of money.

●

Use FACTS: Not OPINIONS

"SCIENTIFIC management" is a term that many business men shun. They are afraid of it: or they suspect it.

That is wrong. Scientific management simply means management based on *facts*—as opposed to *opinions*.

When a scientist sets out to study a subject he disregards all opinions, prejudices, and fancies. He concerns himself only with facts. Scientific management does the same.

Unfortunately, most businesses are still managed by opinions that are not based on facts. Most men believe what they *want* to believe.

In his Efficiency Magazine last month Herbert Casson candidly summed up the value of opinions:

"A man's opinion on any subject," he said, "is never better than his information on that subject. If he has never studied that subject his opinion on it has no value at all.

"Yet, and here is a strange fact, most men place an equal value on *all* their opinions.

"No matter how little a man knows about a subject, you may have noticed that he always has an opinion on it, sometimes a very strong opinion.

"Ignorance creates more opinions than knowledge does—that is a big factor to bear in mind.

"Opinions are created by fears, desires, dislikes, envy, laziness, imagination—by all manner of causes.

"The emptiest brain can be an opinion-factory. Unlike any other product, an opinion can be created out of nothing.

"The mass of opinions in almost every country are purely traditional. They are the opinions of the past, handed down from father to son.

"A few of these traditional opinions are valuable, but most of them are not.

"They are simply not true."

To discard opinion and discover the facts is not an easy matter. And when the facts are found they are usually not pleasant to know.

Consequently, there is a vast amount of self-deception, and executives are content to hold fast to opinions that have very little value.

Any business man who does not want to keep on fooling himself should now and then have a try-out.

He should, for instance, take his opinion on the amount of WASTE in his business, and he should then find out the *facts* about it.

The result of his try-out will not please him, but it will add a lot to his profits.

TAKE YOUR TIME . . .

"THIS is an age of speed, but a hurry-up age doesn't require us to be a hurry-up people. I've seen motor-car drivers who insist on BEING the car—on a long hill they lean forward, jaws set, muscles strained; they're working hard. They think they're speeding things up.

"But we can speed things up only with skill, and skill is acquired slowly and with patience. Racing-motors and airplanes aren't driven by tense, hurried men, but by calm and skilful ones.

"The fastest and best thinkers are painstaking students and careful observers. So take your time."
—Carl Hubbell, in *The American Magazine.*

●

A More Active Policy Needed Here

SIX hundred and forty accidents a day: 192,539 in the year, and 1,003 of them fatalities. That was last year's toll in the factories of Britain; injuries suffered by employees at work on their daily jobs.

And that 192,539 was a 9 per cent increase on the industrial accidents of the year before.

Factories in Middlesbrough and Newcastle districts showed the biggest individual increases. Nobody seems to know why.

The cost to employers of all these injuries by no means stops at the £3,500,000 paid in cash as compensations.

The indirect costs are uncomputable. The permanent or temporary loss of a skilled worker, the re-shuffling of work, the fitting-in of a successor, the possible delay on orders, damage to plant or equipment, the moral effect on the injured one's colleagues, etc., all represents *costs* to the employer.

Requirements under the new Factory Act will not banish accidents. Nearly all accidents are caused by "failure of the human element." It is estimated that at least half the above casualties were *avoidable*.

Clearly the pointer is towards a more

positive attitude on this matter by the management and subordinate executives. "Safety committees" are in being in many firms. But that is not enough. Safety committees still concern themselves too much with devising guards and gadgets. What they need to do is to get into the consciousness of the employees themselves, to change their attitude of mind towards accidents.

Friendly talks by a tactful "safety" man who, in a big works, could spend his whole time wandering round among the operatives at their machines would be more effective than "regulations." But such a plan is useless if spasmodic. It must be a definite and continuous policy. Firms that have done this report a substantial reduction in accidents.

How Other Executives *Save Time*

Simplify Work & Cut Costs

Lost Customers Brought Back

WHAT is the average "life" of your customers? In every business this factor is different, but it can be worked out.

In a well-known hardware manufactory it was found to be 6-7 years, which represented a customer "mortality" of 15 per cent per annum.

With these facts before the management a definite "revitalizing" policy was established. It included investigation into exactly *why* each customer dropped out. At first all sorts of reasons were found for this. Sometimes it was price, or deliveries, or some fault in invoicing, crediting, or even the general attitude of subordinates over the phone or in correspondence.

After a year's run of this policy one of the senior executives said: "I never before knew so much about the detail-workings of our firm. We have been able to remedy dozens of minor faults. We have recovered many of our lost customers, and I am sure the "mortality" rate will show a 50 per cent drop in a year from now."

Internal Phone Stops Loss of Business

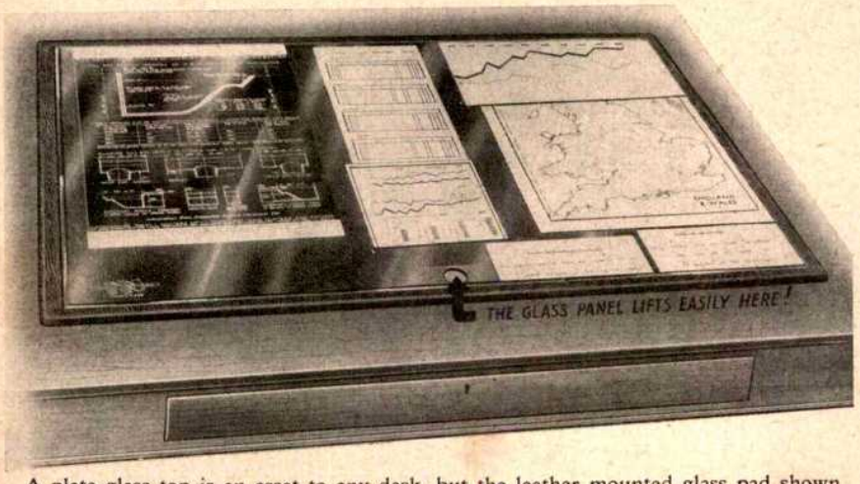
THE management of one firm received many complaints from outside phone-callers who found continuous difficulty in getting through to the firm's numbers.

Inquiries round the firm also revealed that the salesmen were losing business through their clients' inability "ever to be able to get your number on the phone." And the loss of new customers who, trying to make their first contact by phone, gave up through impatience was, of course, unknown.

The firm had a ten-line switchboard, and the management thought this ought to be able to handle the traffic. Investigation, however, proved that no less than 65 per cent of the load consisted of purely inter-departmental calls. These were all necessary calls but they sorely taxed the switchboard and put up a barrier to 65 per cent of in-coming calls. No wonder callers complained that, whichever of the firm's numbers they sought, they always got the "engaged" signal.

The remedy was an inter-communicating phone system installed on a rental basis. This at once freed the main switchboard, made internal calls easier, and speeded-up business all round.

A Handy Plate Glass, Hinged, 'Window' Desk Top



A plate glass top is an asset to any desk, but the leather mounted glass pad shown here has the advantage of being *hinged* along the back. This enables the user to slip under it any document that he needs for passing or permanent reference. Clear visibility is thus obtained without the nuisance of a cluttered-up desk top. You can get these glass desk pads from Novonotions Ltd., 64 Victoria Street, S.W.1

Fewer—but Vastly BETTER—Letters

IN a well-known publishing house it is a firm rule that every letter written to a prospective customer (i.e., buyer of advertising space) must be approved by a committee of sales executives before it is finally typed, signed, and dispatched.

If this sounds like a roundabout arrangement, it is not so in actual practice.

When the space salesmen come in each evening they dictate the letters they want to send to their clients. A rough draft of each letter is typed and the salesmen take them in for a short conference with the sales manager and some other executive who can sit in.

Each letter is discussed and the brains of everyone present are directed to making each letter as perfectly framed as possible.

From these amended drafts the final letters are typed, signed by the original dictators and sent off.

This checking-up is not done in any spirit of criticism. It is simply part of the management's plan to do everything to assist the sales force.

Even the sales manager himself utilizes the system. He takes his own draft letters to his colleagues for their help and co-operation.

The result is: Fewer letters, but every one a much more effective sales—and prestige—building unit.

We Look To Brains Not Ages

AGE of an applicant for employment in the higher grades does not have much influence on the personnel manager of a well-known rayon manufacturing concern in the Midlands that we visited recently.

"What we want to hire is brains, coupled with the habit of using them," he said. "It is not hard for an experienced observer to tell if a man is in the habit of using his brains constructively. Fifteen minutes conversation on ordinary topics of the day is usually all that is required. If such a "test" conversation proves successful then we follow with the more specific detail of talking about the proposed job.

"We have a blank on our employment application forms for the insertion of age, but this is only for record purposes. We never pre-judge a man on that figure.

"We have found that this policy pays us well."

The A.B.C. of Factors *that Cut Down Production Costs*

By E. F. BRAYHAM
Economist and Business Consultant

IN the August issue* I showed how economics play an important role in everyday business in so far as the *sales* planning was concerned, in this article I want to show how a knowledge of economics can solve diversified *production* problems.

The primary function of all manufacturing executives is to assure themselves that the agents of production are adequate and worthy. The right number of men with the right kind of experience are labour agents who are engaged upon mechanical agents, that is, the plant, machinery and other equipment necessary to produce goods and wealth.

To deal first with agent number one: Labour. Efficiency of labour is obtained only when the individual traits of workmen can be overcome or adapted to best advantage by enthusiasm and specialization. Industry to-day recognizes that the workmen must be moulded to fit into the mechanical programme so as to produce a smooth running co-operative unit. A workman who is underpaid and living in straitened circumstances, one who has an over-long distance to travel to work, or works in unhygienic surroundings, or one who is not provided with adequate incentive cannot be expected to benefit his employer. In fact such an employee is usually a retarding factor upon his co-workers.

Plant MUST Work at Maximum

Also, a workman who is continually shifted from one job to another cannot mentally settle down to enthusiasm. Often he is an ineffective who keeps others waiting, hence time, labour and capital are wasted.

Thus we come to what is known in economics as "Division of Labour." Simply expressed this means that in order to obtain maximum planned organization every workman must be heartily enthusiastic in his work upon which he specializes to an extent that ensures the efficiency which is needed to utilize the plant and machinery to the utmost.

Then we get to agent number two: Machinery. The various tools and appliances at the command of the workmen must be in constant employment to yield the utmost hourly value which was paid in procuring them. Henry Ford was the pioneer in this dictum when he strayed from the time-honoured path of allowing one workman to use many tools and introduced the modern method of having one type of tool used to the utmost by many workmen who in turn integrated a unit by the process of disintegration. As a chassis was conveyed mechanically to the assembly plant the body was put on by one section of workmen, the screws were put in by another, a third section tested its stability and the fourth drove it away to the stock room, and so on.

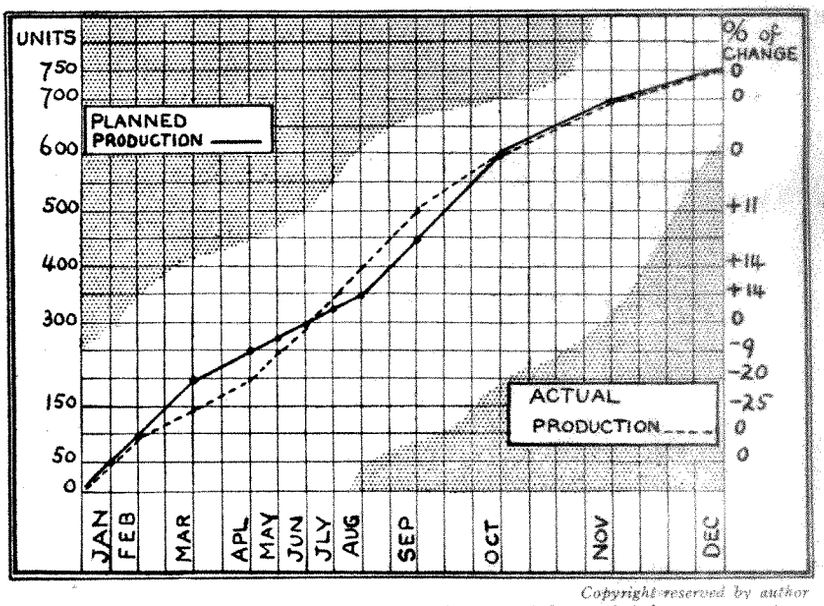
The *size* of a business is a very important phase in the economics of private enterprise. And it is not true to say that because an undertaking is a combine that it is necessarily profitable. Therefore the cost of producing an article must be continually studied. Workmen laid off and idle machinery add to ultimate costs, a plant which is often in the hands of constructional engineers would only produce a limited quantity at an exorbitant cost. Production must be planned to obviate idle machinery and repeated adjustments.

A manufacturer who is producing typewriters cannot at a moment's notice turn out munitions without an excessive wastage of capital necessitated by the introduction of new units which must be calculated into the cost of the munitions to be produced. Thus careful analysis of the costs of production has to be prepared to get down to the net return on outlay. In other words there is a loss of utility (or dis-

(Continued on page 44)

*Economics *Do* Play a Big Part in Everyday Business. BUSINESS for August 1928, page 9.

True Control Chart . . .



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. . . Width of space for each month is determined by study of past 5 years' average production. This method of weighting the chart permits a 'straight' line to be drawn from zero to the budgeted figure for the year

PURCHASING BUDGET

FROM ....19.... TO.....19...

Material	Specification	Quantity to Order / Budget Req'mts	Estimated Closing Inventory: Raw Materials	Estimated Closing Inventory: Work In Progress	Estimated Closing Inventory: Total	Inventory at Beginning of Period: Raw Material	Inventory at Beginning of Period: Work In Progress	Inventory at Beginning of Period: Total	Budgeted Purchases: Quantities	Budgeted Purchases: Estimated Prices	Budgeted Purchases: Estimated Amount	Actual Purchases: Quantities	Actual Purchases: Prices	Actual Purchases: Amount
		A			B			C	A+B−C					D

The subdivisions of this form provide for a quick control and study of the entire purchasing budget

Meeting This Customer's NEGLECTED Demands

Built a Nation-wide 'Seller' *In Two Months*

By
D. H. SHAW
Managing Director, Shaw's Veterinary Products Ltd.

EVERY dog thief knows the irresistible attraction that liver has for dogs, mongrel or thoroughbred. Even cats, usually somewhat aloof and indifferent to friendly overtures, are beguiled by an offering of liver.

But, as in the case of so many obvious facts and conditions, full use of the popularity of liver has not been made by manufacturers of dog and cat foods.

Nine months ago we decided there was room for another dog food, providing it was different from the ordinary biscuit type. That was when the idea of using a liver base occurred to us. The idea did not come as a flash of inspiration: it was "built up."

Specialized Knowledge Devised The Right Product

In our opinion, as veterinary chemists, there was not on the market a *pure food diet*. That was our starting point. Experience and knowledge showed there was a need for such a food.

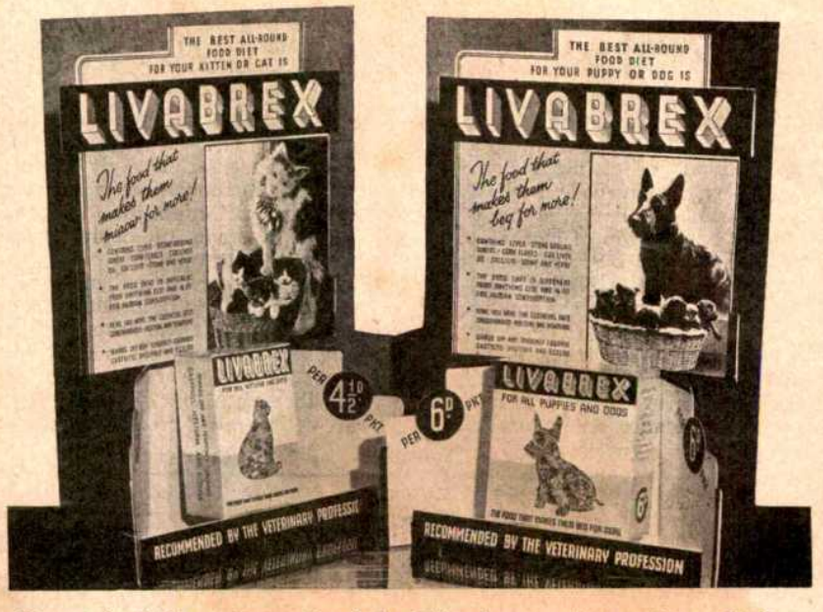
Here, then, is the first vital factor that has enabled us to launch *Livabrex* with success in a crowded market. For "crowded" it is, with heavily advertised dog foods sold by powerful and well-established firms. Yet within two months we have national distribution and a volume of new and repeat orders which threatens to outstrip our present productive capacity.

And this without advertising or the backing of a "big" name. All the business has been brought in by our selling staff of six, which includes myself.

Our search for a balanced food lasted for several months. We experimented with many combinations of foodstuffs. There are several reasons why we decided on *Livabrex*. Liver, for instance, is three times as nutritious as ordinary meat, and most cats and dogs like it. Other ingredients used are wheat, corn flakes, cod liver oil, malt, charcoal, iodine, calcium and yeast. All these have certain specific nutriment values. As a whole, therefore, the food contains all essential fats, carbohydrates, proteins and vitamins. Fed on such a balanced diet as this, dogs and cats avoid many of the common ills, such as gastritis, hysteria and eczema.

THIS CAMPAIGN SUCCEEDED BECAUSE—

1. **There was not available on the market a balanced food actually *liked* by dogs**
2. **The new balanced food therefore had a fresh sales angle: a special appeal to the dog's *palate***
3. **It had still further novelty by reason of the food's similar appeal to *cats***
4. **These logical and novel sales angles, backed by attractive packaging and presentation, won acceptance by retailers throughout the country**



These twin display units constituted the chief sales promotion medium. No Press advertising was used. Note, in the packages, the animal-shaped cut-outs; these were Cellophane 'windowed' to make the contents visible. The board shapes thus cut out were used as give-aways: see separate illustration

The Brand Name, As Always, Was Important

Having produced our balanced food and knowing it was a tip-top product, we now had the problem of presenting it to the public. The name, for example, was important. By inventing *Livabrex* we were able to convey the vital point that it was a food with a liver base. It was an easy name to say. It also suggested that the product was carefully manufactured, produced in a manner similar to that used for human manufactured foodstuffs.

It was a name, too, that was totally different from those of other dog and cat foods on the market—a difference we were anxious to emphasize.

With the pack we were faced with a similar need to be different. We decided to depart radically from the accepted packaging tradition of animal foodstuffs. The food we had made was "fit" for human consumption." It was reasonable, therefore, that it should be packed in a way comparable to packing of human food.

This was done in a carton with a colour scheme of buff and salmon (for

the dog pack) and buff and green (for the cat pack). (See illustrations.)

Most people like to see what they are buying, especially if the product is unknown to them. For that reason we thought out a scheme of displaying the food in the pack by means of transparent cut-outs. On the dog pack the cut-out was in the shape of a Scotch terrier; on the cat pack, a cat.

Not only did this serve the purpose of exposing the food but it introduced a further unusual touch to the pack, and made it still more effective for display purposes.

As a final effort to lift the pack into prominence we had it completely Cellophaned. This added to the suggestion of quality, purity and unusualness.

Show stands of similar colour designs were provided for the packs. Each show stand carried an appropriate photograph of dog and puppies or cat and kittens, suitable copy and price—6d. per carton for dogs, 4½d. per carton for cats.

The difference in price is due to size of carton, introduced because of the relative size of the markets and the fact that less prepared food is bought for cats.

As support for the show stands and packs we used, as "give-aways," little cut-outs of dogs and cats (see illustrations). This was a valuable use of material that might otherwise have been wasted, as the cut-outs were simply the product of the machines used for cutting out the transparent window design on the cartons.

We also prepared samples of *Livabrex* for distribution by retailers to customers most likely to be interested in the new product.

Armed with the strong sales story of the product, the give-away cut-outs and the samples, our six-men sales staff began a drive on their territories.

90% Response From Existing Retail Dealers

Now we have been in business since 1933 as manufacturers of dog and cat preparations. In that time we have built up connections with roughly 4,000 retailers—mostly corn merchants, pet shops, chemists, etc.

It was on these accounts that the drive first started, and in just over six weeks we had 90 per cent of these dealers stocking our new product. In addition we branched out to an almost new field—the grocers.

Here our success has, too, been encouraging. The reasons for this are: (*a*) the product is packed and displayed in a way that makes it worth showing on counter or in window; (*b*) the profit offered—33⅓ per cent, plus discounts which can bring the total to 40 per cent—is very attractive; (*c*) the product is a good seller; (*d*) it is of excellent quality and, therefore, a sound "repeat" line.

These reasons also influenced our success with the grocery trade. With both chemists and grocers an important feature of the product is its display value. That has justified our decision to depart from customary packaging of dog foods.

As more than one dealer has told us: "If you had only sawdust in that pack it would sell."

The good terms offered have also had considerable influence in getting dealers to take a stock. The repeat business has done the rest.

A point about our success which should be stressed, in my opinion, is that this national distribution and sale have been gained *without any advertising in Press or periodicals*. Nor have we mentioned to dealers any likelihood of advertising. This should be an encouragement to small firms, like ourselves, that cannot afford to advertise. Business can be built up rapidly providing your product is right, your terms adequate and your point-of-sale material (carton, show-cards, stands, etc.) compels attention.

But do not misunderstand me. Advertising, I am convinced, is worthwhile—*providing* you can carry out a real campaign. That means substantial outlay of money.

How 'Wrapping' Can Create a *New Sales Appeal*

Gives the Customer an Impression of 'Unity'

WRAPPING of goods in transparent materials has increased sales of many lines, but there are still ways to use the idea with big success. Latest example is the sale of small baskets of fruit (6d. and 1s. sizes) completely enclosed in Cellophane.

The idea may not seem at first sight to be as new as it really is. The baskets contain a mixture of fruit—apples, bananas, oranges, etc. They hold just enough for a light fruit lunch or snack for one or two people, the sort of small selection a person would buy if he troubled to make the necessary individual purchases. In other words, the baskets are trouble-saving, and for that reason they are selling well.

But—and here is an interesting point—the baskets did not sell well until they were wrapped. Why? Because they did not look like a *complete unit*. People thought of them as so many odds and ends put into a basket, kind of "odd lots for sale cheap."

Wrapping changed all that. By being enclosed with Cellophane the baskets became a product, a self-contained unit sold as such. They formed a single impression on the customers' mind, clear-cut and purposeful. Result: sales have increased 30 per cent.

This idea of enclosing together several products which can, naturally, be sold together could be adapted by many manufacturers. No doubt, too, it could be used, as in this case, to appeal in a new way and develop a special niche in the market.

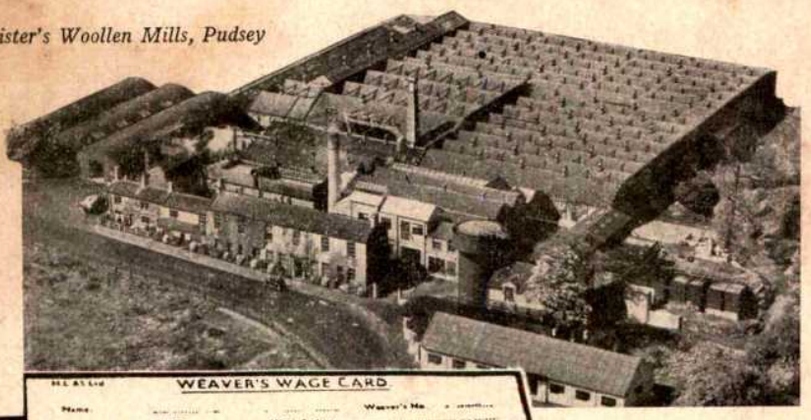
Not Only Prize-Winning Packs — But *Sales Boosters, Too*

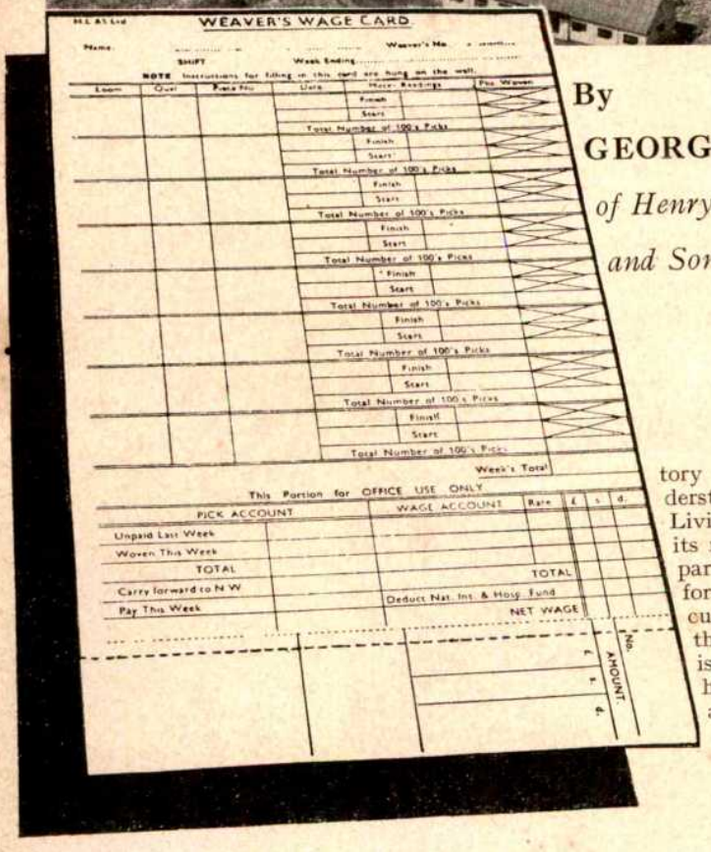
Chief points about packs: (1) Patented moulded pouring device on Glacia salt pack serves also as closure; colour, white lettering on blue and black. Designed: John W. Gardiner. (2) Lark flour drum is packaging innovation in flour trade; colour, scarlet lettering on white ground with yellow caps, bands top and bottom. Designers: Graham & Gillies Ltd. (3) Top-hat form Im gramophone needle pack has stable base 'brim', prevents it being upset. Needles vary in thickness, length, hence platform on which they rest. Lid also receptacle for used needles. Designers: Arks Publicity Ltd.

Quick: Simple: Accurate Wages Plan

that brought Order out of the Chaos caused by Legislation and Trade Agreements

Lister's Woollen Mills, Pudsey





By
GEORGE MAY
of Henry Lister and Sons, Ltd.

DISLOCATION of industry during the Great War, and the absorption of returned soldiers afterwards, produced an enormous crop of wage adjustments.

Following that, endless legislation and a mass of inter-trade agreements brought about a situation wherein the calculation of wages—in the textile industry particularly—became a very difficult matter.

In fact, so complex was the position that employers and employed frequently differed in their interpretation of the many tables and rules issued. Quite often employees simply could not understand how their earnings were calculated. So that here, obviously, existed one of those dangerous factors that good management strains every nerve to avoid in industry: I mean a point of constant dispute between factory and office.

When it comes to the need for factory workers to understand the Cost of Living Index and its relation to their particular cases before they can calculate what money they earn, then it is easy to realize how discontent arises.

We decided to make an attempt to banish some of these complexities, so in remodelling our system we set out the following features as being desirable in a good wage system:

The New System Had These 6 Objectives

1. The minimum of clerical work to be done by foremen and departmental heads;
2. Ease of segregation and analysis;
3. Speedy preparation of the pay-roll with the minimum of weekly inconvenience.
4. Details of individual wages to be compact and easily accessible;
5. The maximum of clear information to be given to the worker;
6. The system to be elastic enough to cater for a fast-growing business with several factories.

Several stock systems were examined but nothing was found to meet all our needs, so eventually we drew up the system which has operated successfully and economically for 18 years without calling for any noticeable alteration.

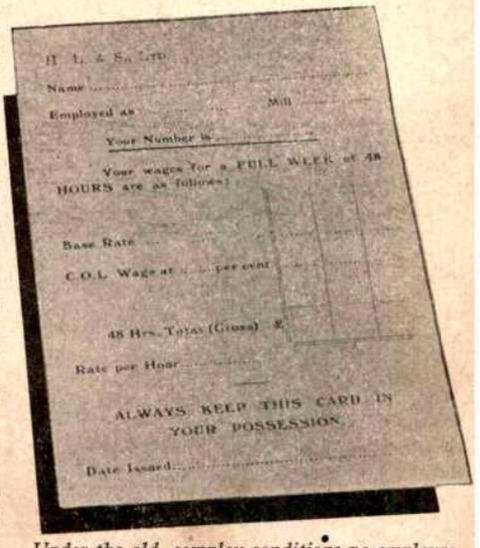
The first step was to notify the worker exactly how his or her wages were calculated and a rate card (see lower right-hand corner of this page) giving this information was issued to every employee. When any change takes place a new card is issued by the pay-clerk. The employee thus holds an official statement by which the weekly wage can be verified.

Better Chance of Clearing Up Any Discrepancy

Two types of wage cards are in use: (1) for piece workers (weavers), this card is reproduced under the picture of our mills at the heading of this page, and (2) for time workers (see page 18). Foremen distribute these cards in blank and they are filled in (as to time worked or work done) by the workers themselves. After certification by the departmental foreman the cards are passed through the manager's office for a final scrutiny before being handed to the wages staff for calculation and inclusion in the pay-roll.

In this way errors in time and other discrepancies are cleared up before any serious trouble has been caused.

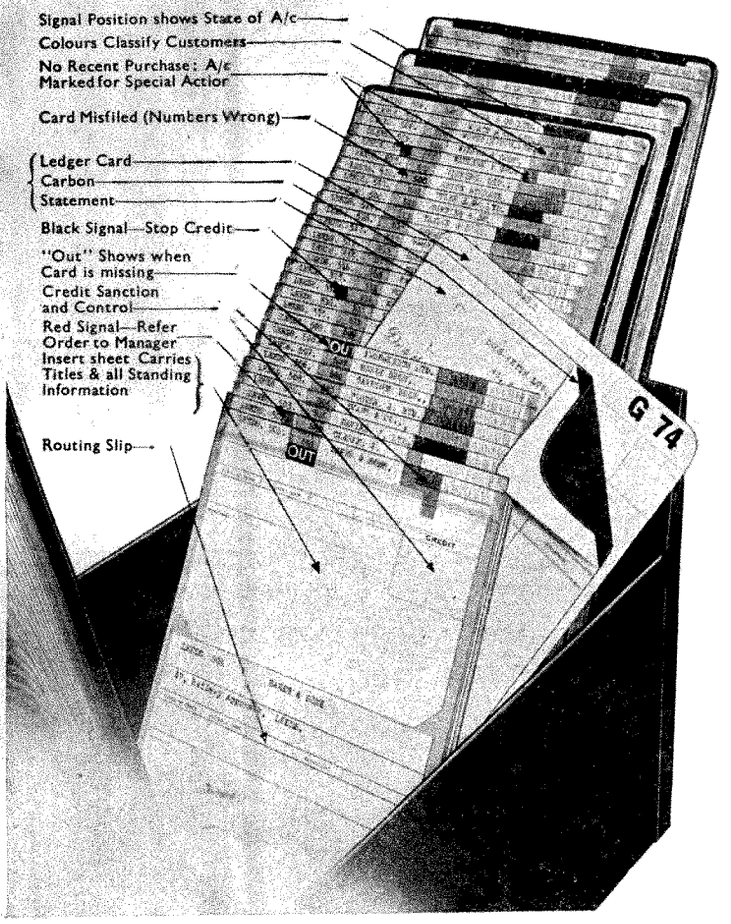
At the foot of each wage card there



Under the old, complex conditions no employee could understand HOW his wages were made up. First step in our remodelled system was to banish that difficulty by means of this card

COPE-CHAT VERTICAL VISIBLE MACHINE ACCOUNTING EQUIPMENT

THE LATEST DEVELOPMENT OF MODERN
MECHANISED ACCOUNTANCY METHODS



If you use or contemplate using Machine Accounting Equipment of any kind why not send for our latest booklet : B. 17.

It's packed full of interest and will be posted on return by request.

Some of the many advantages :—

- **EACH ACCOUNT VISIBLE**
- **SPEEDY LOCATION**
- **NO MIS-FILING**
- **SHOWS UP OVERDUES**
- **INDICATES ACTION TAKEN**
- **INCREASES POSTING SPEED**
- **GIVES PERFECT ACCOUNTS CONTROL**

EQUIPMENT

The Cope-Chat range embraces a wide selection in

BINDERS - TROLLEYS - TRAYS
SPEED RAILS - SAFE CABINETS
FIRE FILES and VERTICAL VISIBLE

●

SERVICE

Cope-Chat experience goes back to the inception of mechanisation. For many years active co-operation with the Machine Companies has given us a specialised knowledge and a range of equipment which are unsurpassed.

THE COPELAND-CHATTERSON COMPANY LTD

EXCHANGE HOUSE · OLD CHANGE · E.C.4

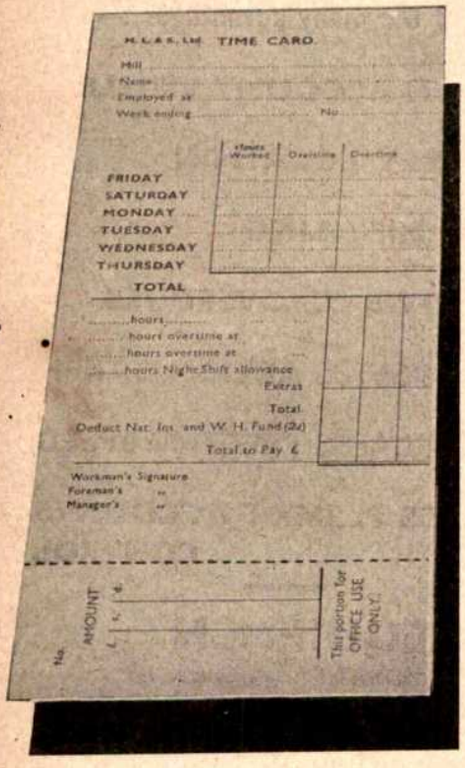
SPECIALISTS IN MACHINE ACCOUNTING EQUIPMENT

BRANCHES THROUGHOUT THE PROVINCES

is a perforated panel one inch wide with space for the worker's number and the net amount payable. This panel is completed by the clerk making the final calculation. After the cards have been listed for the pay-roll the perforated slip is detached and retained by the pay-clerk as a check slip for the wage-tin or packet.

In our case we prefer to use a transparent envelope, the figures on the check-slip being easily read after the packet has been made up.

After listing, the wage cards—minus the perforated slip—are returned to the department for distribution to the workers. Each individual thus gets a detailed and complete account of his



Card for time workers

wages for that week enabling him to satisfy himself that he is receiving his correct earnings and showing him *how the amount has been calculated.*

Completed cards are always distributed by 4 p.m. the day before the actual payment is made, thus providing ample time for scrutiny by the man concerned and for the clearing up of any misunderstanding.

This feature is really the keynote of the system. The worker feels that he is not simply a number on a mysterious document referred to as a pay-roll but an individual who has had personal attention and is being asked to O.K. his own account.

Not only is the accuracy of calculations ensured but the *liaison* between pay-staff and workers is strengthened and wranglings over the contents of the pay-packet eliminated.

Apart from the ease with which work on the wages can be distributed, the cards form a very handy means for compiling taxation returns, statistics of all kinds, and for verifying time clock-cards and other details revolving around "wages paid."

The piece-worker's card (white card on page 16) provides for a "carry over" to the next week. Weavers are paid at a certain rate for each 10,000 picks (shuttle journeys across the loom), unfinished blocks of picks representing fractions of a rate being carried forward.

A very important feature of the system is its economy in working. Cards are bought cut, perforated, and printed on the office machine as needed, an inexpensive stereo doing many thousands of impressions. A careful filing of used cards enables a full record of any individual's earnings being available at a moment's notice.

IDEAS *that Cut Costs* . .

Cuts Filing Costs

EVERY business office must answer a lot of unimportant letters, merely as a courtesy. Such letters include a wide range of inquiries for goods not manufactured or sold, letters soliciting business, which for policy reasons are answered but which need not be retained to clutter files.

In one company which has a tremendous volume of such work the correspondent marks each letter as dictated "No Copy." This is a signal for the stenographer not to make or retain a carbon of the answer and to destroy the original letter.

Care must be exercised in authorizing destruction of letters so that no letter will be destroyed which may be needed for future reference; but it is an unnecessary waste to retain copies of thousands of letters, none of which will ever be needed again.

●

Low-Cost Dress For House Mag.

IF you issue a "House" magazine—or are thinking of issuing one—and need only a small run of a few copies you can still turn it out as a really smart-looking magazine.

Get your cover designed—have it bright, snappy and yet simple—and have a year's supply properly printed on good paper. The "inside" can then be less pretentious, just straightforward stuff turned out by the office duplicator. Stapled each month, or week, into its bright covers, your book will look quite good.

The date of issue on the cover can be rubber-stamped at the time of publication. In this way you can keep costs down to the minimum.

●

Office Tidy-Up Cut Stationery Costs

TWO years ago a large firm in the City moved to fresh offices in one of the new structures along the Thames Embankment. In the process of moving, drawers in the desks of typists and clerks were found to contain enough accumulated stationery of all kinds to amount almost to three months' supply. But the bulk of it was ruined by being in contact with towels, lipstick, chocolate, and all sorts of odds and ends.

Rule was established in the new offices that right-hand desk drawers were for stationery *only* and that they should be accessible at all times to the stationery clerk for inspection. Stationery to be issued only on stock requisition.

Private belongings were to be allowed in *left*-hand drawers, of which there was but one (good size) to each desk.

Results have been substantial saving in stationery, much more orderly desks, and a standard layout for each desk.

●

More 'Elbow Room' By Using Gallery Files

VALUABLE office space is often taken up by records which are not in constant reference. In most cases, however, a little thought on this problem will provide a means of placing such files within easy reach but out of the way of office work.

One London company with limited floor space has solved the problem by building a small gallery above the general office. Records that cannot be stored away as "dead," but must be on hand for occasional use, are put "up aloft." They are held in box files which are placed on shelves, as in a library.

A "movable" ladder supplied by a well known manufacturer provides access to a walk-way in the gallery so that clerks can easily get up and down.

Although not new, this idea is not used as much as it could be.

●

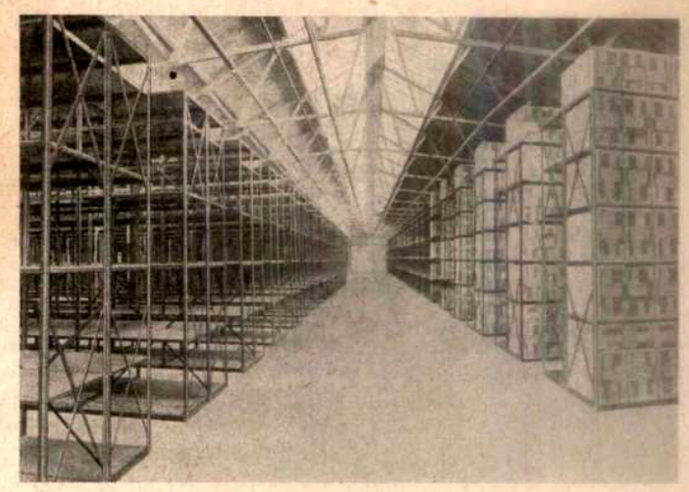
Facts At Your Finger-Tips

ONE of the most useful novelties for business Christmas Gifts is the "List Finder." Unlike a good many novelties which are merely decorative or, at the most, useful only occasionally, this product is something that will help the busy executive a dozen times a day.

It is a pad, of real silver finish and with rubber feet, that stands on the desk. It has an alphabetical index, and all the user need do to find his reference is to touch the letter required. The appropriate page then snaps open like a book.

For lists of names and addresses, prices, formulae, phone numbers and other facts this List Finder solves the problem of the "personal data" desk file. It is obtainable, at special prices for quantities, from Magowan & Co., Ltd., 8 Stationers' Hall Court, E.C.4.

Adjustable Shelving Can Be Adapted To The *Changing* Demands on your Stores Space



By a 'BUSINESS' INVESTIGATOR

THAT efficiency in a factory is dependent to some extent on stores organization and equipment is self-evident, yet there are many firms who have not yet brought this part of their works up-to-date. Time, labour, works space, and money are wasted because bins, shelves and other receptacles are of out-dated design and type. They have not the necessary qualities to function properly in a modern, high-speed plant.

What, then, is needed? An answer which comes readily is "Steel Shelving." It has the necessary qualities of space-saving, economy of material and simplicity of design. Its heavy gauge construction makes it an investment with negligible depreciation. Cleanliness, flexibility and resistance to fire, damp, rot and vermin makes it the most satisfactory storage medium. As it is built from standard components it can be adjusted to meet any storage requirements.

Initial Outlay is Economic

Let us look first at that important item—cost. Initial cost of steel shelving is, for instance, less than that of good quality, painted wood shelving. Moreover, it never has to be scrapped because it can be dismantled and set up elsewhere as many times as you wish. This point is emphasized by the fact that steel shelving can rarely be bought in the second-hand market.

As compared, for example, with wood, the space-saving properties of steel shelving are impressive. In an installation of wood shelving with ½ in. thick shelves and uprights of corresponding strength, over 20 per cent of available space is taken up by wood. For instance, in a store of 5,000 wood compartments the wood alone occupies a space equal to 1,000 compartments. With steel, the space taken up by the material is negligible.

Through shelf adjustability, the use of various components, and particularly by using *Pressnap* fasteners, steel compartments can be made the right size to take the stock concerned. They can, therefore, be kept loaded to capacity. This means that need for further expenditure for expansion comes much later than in the case of old-fashioned types of shelving.

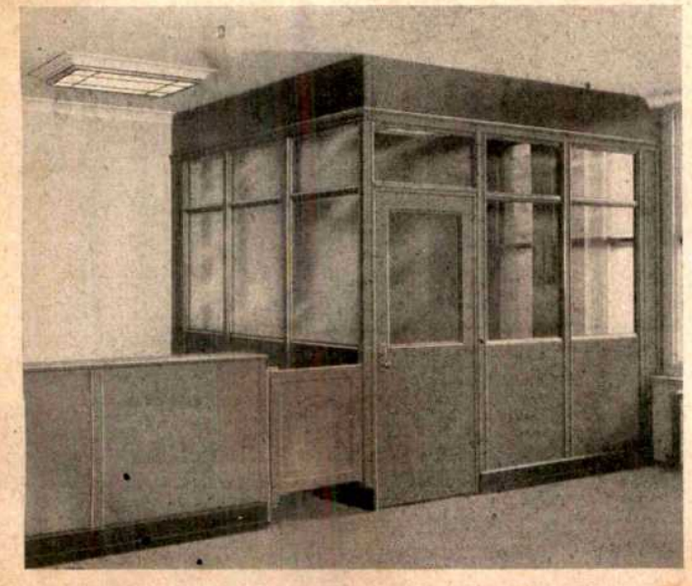
There are only three main components with steel shelving: (1) posts; (2) shelves; (3) braces, or sheet backs and sides. With these and the many components such as dividers, drawers, bin fronts, sloping shelves, etc., infinite variations are possible and can be made by unskilled labour. Screwdriver and spanner are the only tools needed.

The cleanliness factor is important. Steel, for instance, does not absorb odours, a point of interest in foodstuff storage; nor does it soak up oil, therefore it is ideal for storing oiled machine parts and tools. It can be kept clean merely by wiping with a rag. And, of course, it cannot be set on fire, a factor which reduces fire-insurance costs. Even if the surface is scorched it can easily be reconditioned.

Sections and Pieces Adjustable

Last month I examined in detail the steel shelving made by Constructors Ltd., Erdington, Birmingham, a firm well-known for all this type of equipment. Their shelving is built on the sectional principle whereby separate bays can be detached, if need be, and moved elsewhere. This adjustability of section and of individual pieces is an important factor in efficient operation in a factory. When another shelf is needed you merely take one out from the existing set-up or 'phone for an extra. If there is more stock to go in you just squeeze out the *Pressnaps* and move the divider along a bit.

These New Office or Factory Sectional Steel Partitions are Sound Insulated



Substantial, fire-resisting and sound-insulated, these sectional partitions can be changed or interchanged, added to or reconstructed as required. New feature is three-way concealed wire raceways on both panel faces to provide separate compartments for telephone, lighting and power wires

OTHER interesting new products I examined last month included sound insulated sectional partitions. Once installed they form an integral part of an office or factory yet they can be changed or interchanged, added to or reconstructed, as desired. They are secure, substantial, sound-proofed and fire-resisting.

They are manufactured by Art Metal Construction Co. and embody interesting new features. Three-way concealed wire raceways on both panel faces, for example, provide separate compartments for telephone, lighting and power wires, eliminating surface or conduit wiring.

The partitions are quickly installed. Supporting posts incorporate floor levelling bolts and (with ceiling height partitions) ceiling pressure bolts. This gives quick, positive post adjustment. Removable clamp-on post cover panels conceal all post connections.

Another important feature is the watertight base. Often in cleaning the floor, a pail of water will be accidentally upset or too much water used. To obviate nuisance

(*Continued on page* 35)

YOUR ADVERTISEMENTS FREE IN YOUR OWN TRADE

A GIGANTIC AND PRACTICAL NEW CAMPAIGN to ensure continuous dealer-support for goods advertised in the 'Radio Times' . . .

The "Radio Times" announces a vast new marketing plan for advertisers. In thirty-three trade publications, reaching seventeen separate retail trades, actual advertisements from the "Radio Times" will be reproduced regularly. ● The retailer-readers of the trade publications will be reminded how the "Radio Times" reaches three million families of every class and walk of life in every part of the country—one in four of the customers on their books. These traders will be urged to back up the nation-wide influence of "Radio Times" advertisements by displaying the goods advertised. ● In their own trade papers, retailers will be reminded how the "Radio Times" is read not once a week, but every day. And, irresistibly, they will recognise that "Radio Times" advertisers are their best friends in the trade and that goods advertised in the "Radio Times" will always be their best-sellers. ● In each trade paper "Radio Times" advertisements will be reproduced in turn. The list of "Radio Times" advertisers will be included in each announcement. *Your* "Radio Times" advertisements will now be doing double duty—influencing one-in-four of the consumers and building confidence throughout the trade. Furthermore, this trade campaign will be supplemented, in some cases, by direct mail information from the Advertisement Department of the "Radio Times" to retailers. ● Full details can be had on application to the Advertisement Director, B.B.C. Publications, 35 Marylebone High Street, London, W.1.

. . . . this unusual plan will be of service to manufacturers and retailers alike

★ ***A recent national research has shown that from 60% to 80% of retailers, in various trades, are listeners and readers of the "Radio Times."***

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

Price TWOPENCE

RADIO TIMES

JOURNAL OF THE BRITISH BROADCASTING CORPORATION

REPRODUCED PRESS

THESE ARE TYPICAL PAGES

WATCH FOR THE FIRST ADVERTISEMENTS

British Stationer	December
Broadcaster	Nov. 19th
Builder	Nov. 25th
Cabinet Maker	Nov. 19th
Chemist and Druggist	Nov. 19th
Confectionery Journal	Nov. 24th
Confectionery News	Nov. 16th
Drapers' Organiser	December
Drapers' Record	Nov. 19th
Electrical Review	Nov. 18th
Electrical Trading	December
Food	December
Food Manufacture	December
Footwear Organiser	December
Furnishing World	Dec. 1st
Grocer	Nov. 19th
Grocers' Gazette	Nov. 12th
Hairdresser and Beauty Trade	Nov. 18th
Hairdressers' Weekly Journal	Nov. 19th
Hardware Trade Journal	Nov. 18th
Ironmonger	Nov. 26th
Man and his Clothes	December
Men's Wear	Nov. 19th
Motor Trader	Nov. 23rd
Motor Commerce	December
Music Trades Review	November
Pharmaceutical Journal	Nov. 19th
Pianomaker	November
Shoe and Leather Record	Nov. 24th
Stationery Trade Review	December
Tobacco	December
Wireless Trader	Nov. 26th
Women's Wear News	Nov. 17th

MORE MEDIA TO FOLLOW

3,000,000 GUARANTEED WEEKLY NET CIRCULATION

This Loud-Speaker System *Assists A/cs. Dept.'s Work*

From **THE SECRETARY** of a Well Known Company

UTILITY companies dealing with gas, water, etc., and many big commercial companies, too, are constantly faced with the problem of issuing duplicate invoices to customers.

This was so in the case of a well-known company which describes how the difficulty was met.

The cashier's desk, where requests for duplicate bills and information concerning accounts are made, is on the ground floor, and the book-keeping department on the second floor of the building.

To facilitate rapid communication between the two stations we installed a tube carrier system which we have operated for the past nine years. However, a recent study of its operation revealed that:

These Were Drawbacks In The Old System

1. The attendant at each station had to walk twenty steps to pick up or dispatch the message. This was necessary because of the permanent feature of installation which did not lend itself to alterations without heavy expense.
2. It required an average of over four minutes to complete a transaction.
3. Customers waiting were asked to step aside to make room for another customer. That the customer was annoyed and impatient was quite apparent. Private conversation became common knowledge to those standing about.
4. The telephone was used to supplement the carrier system when more detailed information was required from the bookkeeping department, or there was a phone call to return carrier tubes that may have accumulated at either end.

This analysis showed the extreme need for improvement, and we therefore investigated all forms of communication and purchased equipment which consisted of a microphone, amplifier, earphone and loud-speaker unit.

The speaker unit is located in the bookkeeping department and the microphone, switch, amplifier and earphone in the cashier's cage. When the clerk in the cage wishes to communicate with the bookkeeping department she turns the switch to the right and speaks in ordinary conversational tone. The message is transmitted to the speaker unit in the bookkeeping department. The switch is then shifted to the left, which changes the circuit, making the speaker unit a transmitter, and the return message is secured on the earphone.

Since 95 per cent of the messages originate from the cashier's cage the control is placed at this point. If the bookkeeping department wishes to talk with the cage a buzzer signal is used.

When the system had been in operation six months the results were far beyond our expectation. Some of the outstanding accomplishments are:

1. Our capital investment is only a fraction of that in the tube system.
2. Average time required for each transaction is 63 seconds.
3. Employees need not leave their station to communicate.
4. Bookkeeping department clerks have both hands free to handle records for information, and the message is returned by merely directing the voice to the loud-speaker unit mounted on the wall.
5. Eliminates one telephone entirely, the other being free for other traffic.
6. Low maintenance cost.
7. True reproduction of voice.
8. Increased efficiency.
9. Low operating cost.

Where the ordinary type of loud-speaker internal telephone system is not applicable for any reason, this simple and inexpensive method seems to have a wide application.

Reduce Your Postage Costs

Use More Second-Class Mails For Abroad

From ***R. F. ENGLISH***

WHEN the Post Office extended postal facilities abroad and speeded up many of the ordinary mails by transferring them from sea-passage to air-mail it was obvious that business firms would not want to pay the additional charges on heavy letters and packets. Second-class mail, therefore, came into more use, and the Post Office have published a pamphlet describing the facilities offered by this system.

Second-class mails come under the following headings: Printed Papers; Commercial Papers; Sample Packets; Small Packets.

The first of these is practically the same as the Inland Printed Paper as regards regulations and rates. It includes drawings, maps, plans, engravings, printing proofs, and photographs. The regulations permit various alterations and additions in manuscript to most of the above.

Here Is a Point Often Overlooked

The packets of Printed Papers should be packed *so that they permit easy examination.* This seems obvious, yet many business houses despatch books or periodicals rolled so tightly that the paper band has to be cut in order to make an examination of the contents.

Receipts, invoices, and statements of accounts, which go as Printed Papers in the inland service, must go as Commercial Papers to places abroad. The foreign Printed Paper rate is ½d. for 2 oz. with a maximum of 5 lb. to the British Empire and 4 lb. to other Foreign Countries.

Commercial Papers include, in addition to the items mentioned above, documents, copies of deeds, legal papers, bills of lading and waybills. They must not contain any personal correspondence, but letters and post cards that are out-of-date and have fulfilled their purpose may be included. The rate is 2½d. for the first ten ounces and ½d. for each additional 2 oz.

In most cases it is cheaper to send receipts and invoices by ordinary mail.

Genuine trade samples, articles of natural history, keys sent singly, printers' blocks, and tubes of serum and vaccine rendered harmless by the method of packing may be sent at the Sample Packet rate, but keys and printers' blocks cannot be sent for commercial purposes.

The Sample Packet rate is 1d. for the first 4 oz. and ½d. for each additional 2 oz. In most cases, articles liable to Customs Duty are not permissible by this rate.

Articles up to 2 lb. in weight may be sent by Small Packet rate to most places abroad, but the Post Office Guide should be first consulted. The service is intended for packets requiring to be forwarded more quickly than parcel mail.

Letters and personal correspondence and valuable articles are not permissible at this rate. Small Packets require a small green Customs label affixing. The rate is 5d. for the first ten oz. and 1d. for each additional 2 oz.

In all cases the items may be registered if desired. The class of the service should, in all cases, be written on the top left-hand corner of the address side of the packet.

A Handy Desk Gadget

BANISH the risk of pins pricking the fingers or running under the nails of your clerks. An automatic ejecting non-capsizable pin-box, for use on office desks, is now available to take those very small pins which are often used to keep office documents together.

This little appliance saves pain and time; it also keeps desks and drawers tidy. It is of special value in offices where typists and others of the clerical staff use small pins in preference to clips.

The boxes normally sell at 9d. each but are supplied in dozen lots for 7s. 6d.

NO MORE BOTTLENECKS..

✦✦When production activities in some or all departments are ahead of the records of the work in progress, there is danger of the whole factory-organisation becoming "bottlenecked" through incomplete recording.

PRIMUS

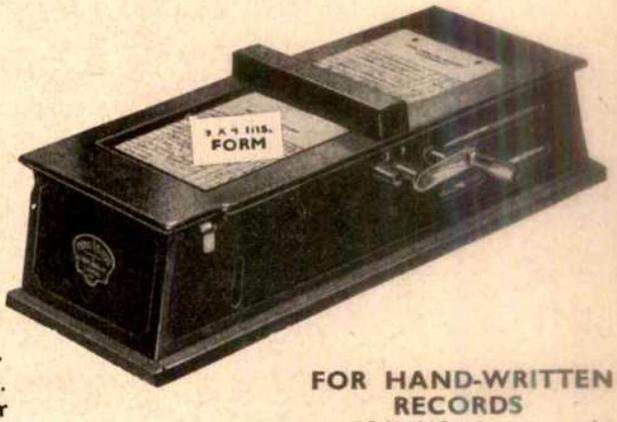
CONTINUOUS STATIONERY

prevents any possibility of this danger arising.

The PRIMUS System means that on a factory job all instructions are distributed to the various departments without any delay—all necessary documents being issued at one writing. Similarly, records of all completed jobs can be made at one writing. Another batch of documents covering packing, despatch, delivery billing and other work to do with the order can be completed at one writing.

On every known repetitive task stenographers' work is speeded up at least 30%. The time saved may well be even greater according to the type of job to be carried through. Furthermore the chance of error is very greatly reduced.

The PRIMUS attachment, as supplied by us, fits any typewriter and facilitates the smooth flow of continuous forms. It allows the machine at a moment's notice to be used for either billing or ordinary correspondence work.



FOR HAND-WRITTEN RECORDS

the PRIMUS Autographic Register, for use with Continuous Stationery, ensures the same speedy, smooth operation while a copy automatically locked in the machine provides your auditor with a check on each transaction.

CARTER-DAVIS LTD. QUEEN ELIZABETH ST. S.E.1 *Phone.* HOP 0204-5-6

Your Lighting Plan must be Decided by

The Nature of Work To be Done

By J. MORTIMER HAWKINS
Managing Director, Mortimer Gall & Co., Ltd.

Fig 1. The light fitting in this directors' room was a good one, but it was of the wrong type for the room. Note the glare

Fig 2. With a fitting selected for the nature of the work to be illuminated, the difference and improvement is obvious. The lighting is now both clear and restful

THE importance of proper lighting in business and industry has not merely increased as a result of modern development: the shape of the whole problem has altered.

To-day, good lighting is something very different from just the provision of a certain number of electrical points and the fixing of "shades" and bulbs. The modern approach to the lighting question is from the opposite end.

The first thing to be studied—and studied closely, too—is the *nature of the work to be lighted*, so that the problem can be reviewed in terms of lighting requirements. This is particularly so in the planning of lighting for a factory.

Human Factors Must Also be Understood

A good lighting engineer must be more than a good technician. He must acquire a sympathetic understanding of every type of individual. The results of his investigations depend to a large extent on his ability to appreciate the point of view concerned.

The nature of production decides the nature of the light; its method of application involves a careful survey of the constructional features of the rooms or workshops.

The possible mounting height of a fitting may be controlled by a restricted ceiling height or, for example, by a travelling-crane in a factory. The restriction may keep the fittings much higher than good lighting requirements demand.

Whatever may be the constructional features controlling the mounting height, it also effects the spacing between the lighting units. Quite apart from any other consideration a low ceiling will involve the use of a greater number of small-power lamps in order to maintain even lighting on the desk, bench or machine.

Another factor which it is important to consider when determining the efficiency of a lighting installation is the colour of the walls and ceiling.

It is not generally appreciated that a wall painted white reflects *more than*

(*Continued on page 36*)

Modern Business Methods can *Provide a National Register*

(*Continued from page 8*)

the simplicity of this card system. It is the means by which progressive firms to-day, control their sales, stocks, stores, purchases, mailing lists, hire-purchase accounts—anything, in fact, which involves a multiplicity of units over which a close, intimate control is required.

No matter whether a hundred, five hundred or five hundred thousand units are involved: whether one fact or a thousand different facts about each have to be kept at the user's finger-tips, this record system literally places them there.

Take the case of a sales manager, responsible for nation-wide sales of a large number of commodities.

For his purposes the country is split up into, first of all, branch areas, each branch area being split up into territories, each territory being under the control of one traveller.

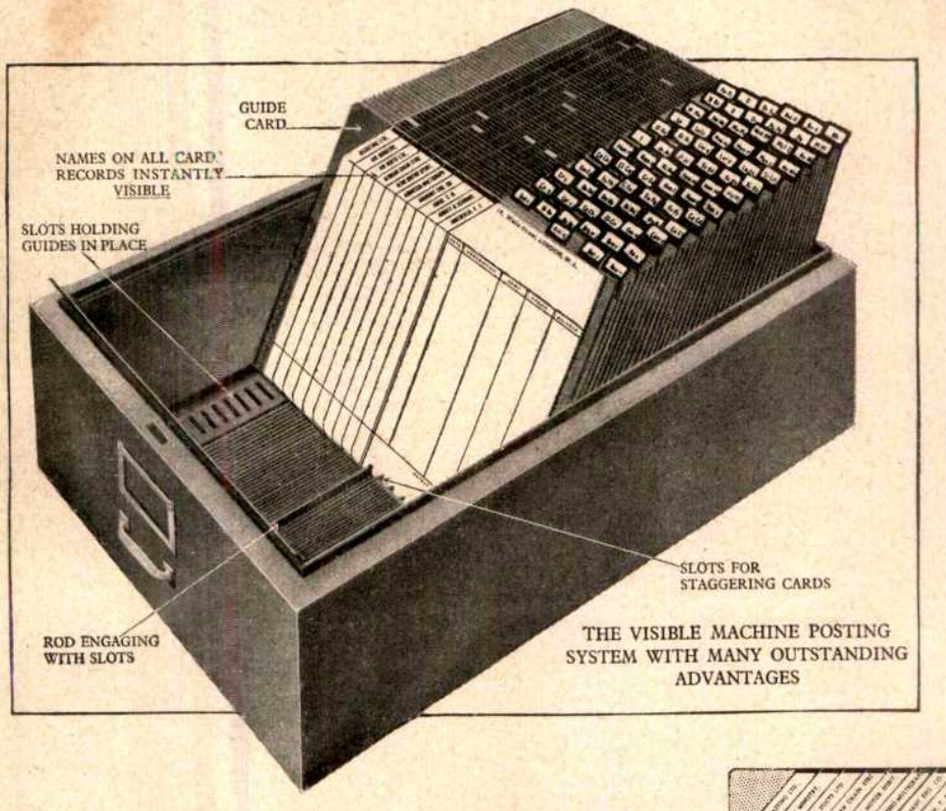
He needs to know, at any time, the volume and the exact rise and fall of sales (*a*) for the whole organization, (*b*) for each branch area, (*c*) for each territory. He also needs to analyse sales by individual travellers because he has to pay his travellers different rates of commission for different lines sold.

Then, again, from the same details, the accounts manager wants customers'

. . . *speedier and safer than ever!*

"MACHINE-POSTINDEX" FILES

for Mechanized Accounting



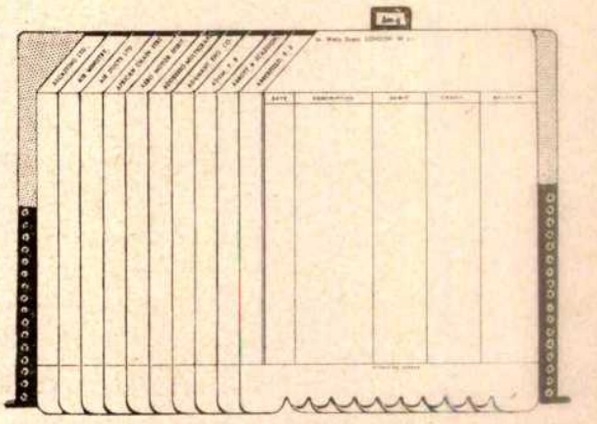
THE VISIBLE MACHINE POSTING SYSTEM WITH MANY OUTSTANDING ADVANTAGES

Every facility demanded by up-to-date accounting equipment is provided by the NEW "Machine-Postindex."

This latest Art Metal product has been designed not to alter any system of book-keeping, but TO GET THE HIGHEST POSSIBLE STANDARD OF SPEED AND EFFICIENCY OUT OF ANY KNOWN METHOD OF MECHANIZED OR MANUAL ACCOUNTING.

Here are some of the features of the new "Machine-Postindex":

1. *It is impossible to lose or misfile a record card without INSTANTANEOUS automatic detection.*
2. *ALL index lines are visible at a glance so that card-location is as rapid as possible.*
3. *Convenience plus economy of space: up to 1,500 cards may be housed in a single tray.*
4. *New records easily inserted at any point.*
5. *The files are always tidy no matter how much the cards are in use.*



Illustrating a set of ten cards with the guide card for the following set of ten cards. Note the protruding studs on the metal reinforcements of the guide card. While the metal edges of two successive guide cards are touching, these metal studs keep them sufficiently apart for a set of cards to lie in between.

SEND FOR CATALOGUE MP. 60
("Like guards on parade").

MACHINE-POSTINDEX

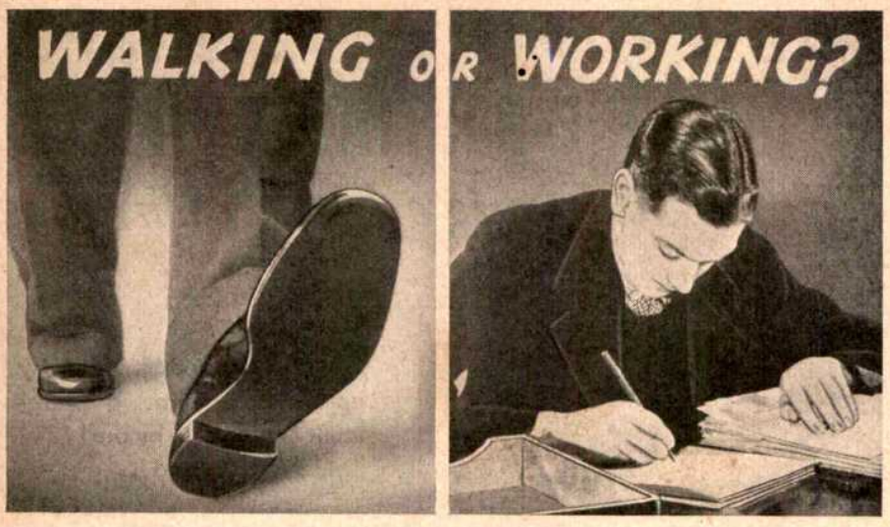
PAT. No. 426,996

SEND FOR CATALOGUE MP. 60
("Like guards on parade").

Art Metal CONSTRUCTION COMPANY, 201 BUCKINGHAM PALACE ROAD, S.W.1

Showrooms: 31 Kingsway, London, W.C.2. (TELEPHONE *Sloane 5201 - 6 lines*).

DO YOU PAY FOR



Increase "profit-earning time"

WITH SHANNON OFFICE SYSTEMS

Save the time employees spend away from their desks—time wasted walking in search of inaccessible information. Install an office system that provides the facts and figures of your business immediately to hand. Furnish your offices with Shannon Equipment—planned by experts to provide maximum utility. Shannon is increasing the profit earning time of progressive firms throughout Britain. Let Shannon cut time waste for you.

FREE!

Write for our 28-page Booklet, "Lost Motion" —the Office Planning and Equipment Specialists' case for a profit earning office. Sent free to Executives and without obligation.

THE Shannon LIMITED

planned

OFFICE EFFICIENCY

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records and ledgers made up covering the sales by each traveller.

Now this system has a special card as an integral part of the invoice set. On this card, therefore, is automatically "carboned" all the above statistical matter—and other information as well—for the complete guidance of the sales manager, accounts manager, and any other executive.

Then, again, suppose a sales executive wants to send a direct mail shot to every prospect in every one of the 3,400 trades that operate in the British Isles. In the matter of a few minutes he can segregate (*a*) by trade, (*b*) by size of firm, (*c*) by type of activity, (*d*) by individual commodities . . . in fact, on a 6-inch by 4-inch card he can select from more than 19,000 primary classifications.

Or if a production executive has 10,000 employees, 100 departments, 100 machines in each department and 100 different operations in process for *each* of 10,000 jobs in hand, this same system will tell him at any time exactly how he stands with regard to costs.

By the same method of analysis and classification he can get, just whenever he wants it, the *progressive* or the *final* cost of any job or any single operation.

The same applies to subjects like the recording of street accidents. This system classifies separate street accidents according to time, place, type of vehicle involved, age and kind of pedestrian involved. From this data the authorities find out the "black spots" and get information for traffic control.

Government Already Proving the System's Efficacy

Some departments of the Government have also proved the efficacy of this system, as, I believe, it has recently been adopted as the standard means for registering all regular soldiers and airmen, as well as the auxiliary fighting forces.

To get back to the proposed Register: In addition to details of personnel the record could also be extended to apply to plant, machinery, vehicles, and services. It could be made up in such a way, also, as to incorporate facts which could be extracted from this master-control record for any other purposes required.

Personal and family details of men and women are recorded in many ways and are required for many purposes. Here is a means whereby a master record could be created so that any classification could be speedily segregated by means of the sorting facilities which is an integral part of this particular record card.

If for any reason it should be decided that *centralization* is necessary for the Register, there are machine-operated card systems to consider besides this more simple method.

These machines are of great use where accountancy and other kinds of really big tabulations are concerned and where the operations *can* be centralized. It is doubtful, however, if the best

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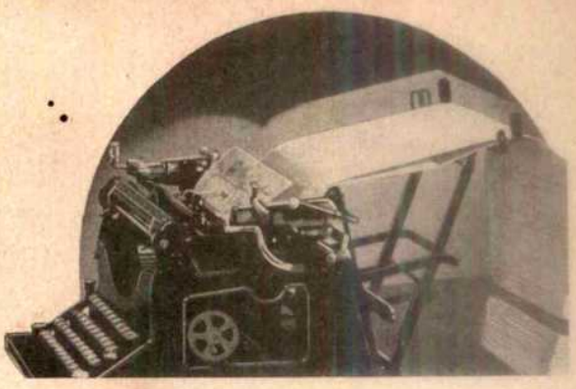

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It is worth noting that because Fanfold Limited make *all* types of continuous stationery they are in a position to render unbiased counsel and to advise as to which type of form is best suited for a particular need.

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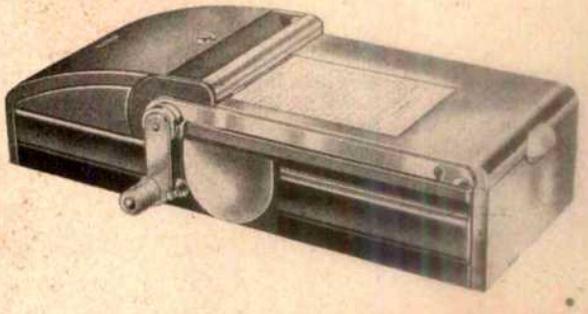

(same may be had incorporating Cash Till) the only Register that files **ORIGINAL** copy under lock and key, and ensures effective control over Stock, Cash and Staff and protects you against losses due to lost forms, altered records, forgotten charges and other errors. It definitely takes the gamble and guess-work out of business records.

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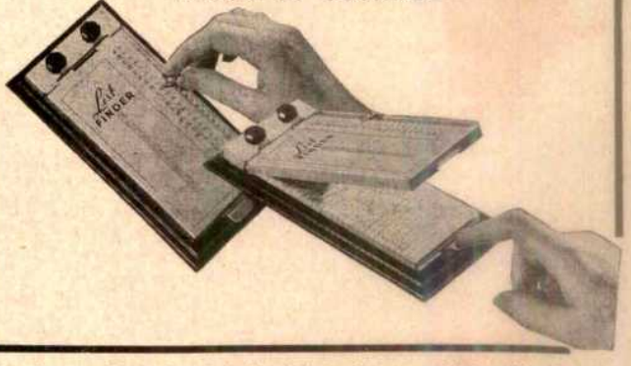

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features of these types of machines could be utilized for the National Register because of the apparent necessity for *de*-centralization and the lack of need for tabulation.

Business, therefore, can indicate what should be done and how it can most economically and effectively be done.

In short, modern business methods would be applied, and that high standard of order and procedure which is the hall mark of the successful business undertaking of to-day would fulfil our national need so that "gearing-up" from peace to war would be a simple, effortless, and frictionless operation.

Better NEWS Campaigns Would Boost Wool Sales

ONE of the outstanding features of the Woman's Fair, recently held at Olympia, was the successful stage it provided for publicizing dress and textile materials generally.

Textile interests in this country, with the exception perhaps of the rayon section, are not, however, utilizing anything like the full scope of sales promotion ideas that are open to them.

Take, for example, the "ribbon weeks" and the "velvet weeks" so successfully popularized in the United States, mainly by the use of skilfully planned *news* campaigns in a wide range of newspapers and magazines.

The sales of these products have been increased enormously by well-handled propaganda of that kind.

In Britain, wool is a product that offers an even better story, particularly just at this time of the year. Such great technical and style advances have been made by the woollen manufacturers that their story is well worth the best schemes of specialized editorial propaganda: that is *news*, as rigidly distinct from mere puffs.

TRUSTWORTHINESS in financial matters can be covered by insurance. But trustworthiness in the matter of getting work done to the highest standards is often more important. You cannot buy "cover" for this. You can secure it only by patient selection and by careful nurturing and encouragement from that point onwards.

Here's a New 'Flow Production' Factory that Minds Its A.R.P.'s, Too

By C. E. DAY

From an Interview With

W. J. BUSH & CO., LTD.

NOW the aeroplane has brought front-line warfare to the factory back-door and shock troops are overtime workers, there is a new consideration in factory building for every board of directors to-day—A.R.P. It must be part of any *planned* factory now. Every manufacturer, from the one-man workshop to the international combine, is "in the army now" (defence division at least).

Floor Carries Sandbagging of 200 lbs. Per Sq. Ft.

That being so, look over one of the first of British factories constructed with A.R.P. in mind. It has been built by W. J. Bush & Co., Ltd., London, famous manufacturers of fruit flavours. The basement is gas-proof; the new building will make an ideal casualty clearing centre; the roof and concrete floors are a foot thick and can carry sandbagging up to 200 lb. per sq. ft.; there is an ambulance-room, bath, showers, etc.

Such "precautions," however, have in no way interfered with the industrial efficiency of the building. The prime object has been, of course, to build a factory that is a model in up-to-date time- and labour-saving design and layout. That result has been obtained.

For proof, let us make an inspection tour of the factory and offices. There are many ideas and features which are of interest and could be adapted with success by other manufacturers.

The building can be readily washed and kept clean. Walls are constructed of washable materials; the factory is supplied with washed and filtered air. Sharp corners and closed drains have been avoided. All entrances and exits are above ground level to avoid dust and dirt being carried or blown into the building; doorways are air-locked.

The factory is divided into five main parts: (1) cold storage basement, (2) main factory hall, (3) packing room, (4) workmen's accommodation, (5) control laboratory and offices; and ambulance room.

As rooms in which fruit is handled should be cool, those used for manufacturing face north, with east and west windows. The laboratory, offices and workmen's quarters are at the south end.

The building has a flat roof, of materials similar to those of the main floor; additional floors identical in type may be added as the occasion arises. Windows in the main building are of glass bricks, which transmit a high proportion of light with minimum of heat transference.

The cold storage basement is lined with asphalt. It can be considered as an entirely water-tight tank, lined with brick to a thickness of 27 inches. The inside brick has high insulating properties.

The floor of the main factory is covered with asphalt, screeded and finished in red tiles. These tiles are surrounded by a white porcelain gutter to carry away washing water. The gutter is open, which stops accumulation of fermentable material. The outlets are continuously disinfected.

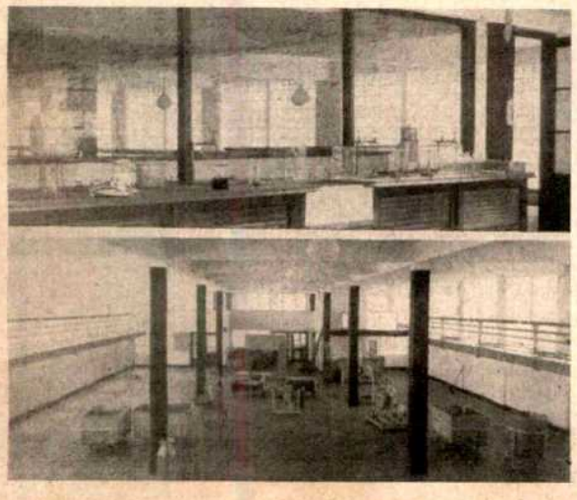
The lower half of the walls is covered with white glazed tiles. These are easy to keep clean. Surrounding the upper half on three sides are the air duct and general service pipes. The ducting is placed to form an elevated gangway round the building. It is, therefore, easy to get at any service pipe.

Service pipes, consisting of steam, water, return water, vacuum, compressed air and electricity, are provided with outlets at various points around the room. This simplifies rearrangement of plant whenever necessary. Such provision, *combined with the fact that most equipment is mobile*, makes for very flexible working.

Sterile filtered products are conveyed from the main hall through openings in the wall into the packing room.

From a factory such as this the aim is to send out products free from yeast and bacterial contamination. The personnel therefore are provided with special clothes and given every facility for personal cleanliness. For instance, a shower-bath and a tiled dressing-room are provided. All the men engaged in the factory are medically examined at intervals.

At every stage, from raw materials to finished products, control is maintained by strict laboratory tests. The laboratory is, therefore, fronted with a gallery, so that the control staff may constantly overlook factory work.



Laboratory (top) is fronted with gallery which enables control staff constantly to overlook factory work. This implements policy of laboratory tests and control of every stage of manufacture, ensures good works management

Factory (bottom) is planned for flexibility in plant layout. Illustration shows: (1) most equipment is mobile, therefore can easily be set up to meet changing production needs; (2) ducting forms an elevated gangway, making access to service pipes easy; (3) windows of glass bricks transmit a high proportion of light with minimum of heat transference

Gas-Proof Basement Provides First-Class Shelter

In the event of hostilities the building would be used to accommodate the staff. The basement is as near gas-proof as it is possible to construct. The ammonia could be drained out of the refrigerator plant and the expansion coils connected with the water supply. This would afford means of keeping the basement cool and fit for human habitation.

The floor of the basement is two feet above that of adjacent buildings, thus reducing risk of flooding from burst water-mains, etc. The ground floor would make an ideal casualty clearing-station; the laboratory and offices could be occupied by doctors and staff, since bath and all conveniences are provided.

Are Your Factory Floors 'Covered' Against Excessive Costs?

Efficient flooring is a factor influencing profit and loss account, a point overlooked by many firms. Every floor should be subject to routine check-up, even modern, almost indestructible floors such as illustrated here

FLOORS are a factor in efficient production yet their effects are frequently overlooked or underestimated. This is true under most factory conditions, especially as modern methods of production make a much heavier demand on floors as compared with that of a decade or more ago.

Internal transport provides an instance of this. To-day, trucking of every kind is in general use. Heavier loads are being carried at faster speeds and more frequently; there is a greater volume of traffic. All this means that many floors, built years ago, are no longer capable of standing up to to-day's wear and strain. They deteriorate, crack, become potholed. The trucks and other transport equipment passing over them all day long are, therefore, subjected to unnecessary stresses and strains. Repair bills mount; the life of vehicles is shortened; the cost of transport is increased considerably.

These 'Concealed' Costs are Sometimes Heavy

Over a short period the effects are not always easily perceived. Nonetheless, in the course of a year the increased costs are substantial.

This cost factor about floors is obvious. There are others, too, which, though not so apparent, are important. The question of fatigue, for example, is involved. Men pushing or hauling trucks over bad surfaces use up more energy in their job than they do when operating over good surfaces. They get fatigued more quickly. Not only is this detrimental to health but it leads to more accidents, carelessness, misunderstandings and so on. All these are against efficiency and contribute to rising costs.

There is, too, the factor of cleanliness to consider. A deteriorated floor is usually unavoidably dirtier than a sound floor. Dust gathers in cracks and potholes; it flies up and settles on goods, machinery and people. Unimportant as this may seem, the dust is harmful. It can affect the vigour and liveliness of the staff; it can soil goods and induce extra wear on any kind of machine.

One of the most noticeable points about new factories is the thought and attention given to flooring. Concrete, steel, rubber, tile, wood, and many other materials are being used effectively, sometimes by themselves, sometimes in combination.

Among the various excellent types of flooring materials available to-day there is, for instance, a new combination of concrete and steel flooring on the market. This product is made for a number of different kinds of flooring requirements. There is one type for dock and wharf flooring; there are steel clad flags and anchor steel plates for floors of factories, warehouses, etc.

The flags are made of compressed concrete with a special steel face. They are supplied in one overall size, about 12 by 12 in. and in two thicknesses—1.3/16 in. and 2 in. They are dustless, practically impervious to oil and water and resist abrasive wear.

Anchor steel plates are stampings made from 10 gauge steel and are of overall size similar to the flags. Each plate is bent at the sides to a depth of $\frac{7}{8}$ in. On surface and sides 53 lips are stamped out and these form anchors going in eight different directions. Thus when laid the plates are securely anchored to the concrete bedding material and an immovable, all-steel floor is provided.

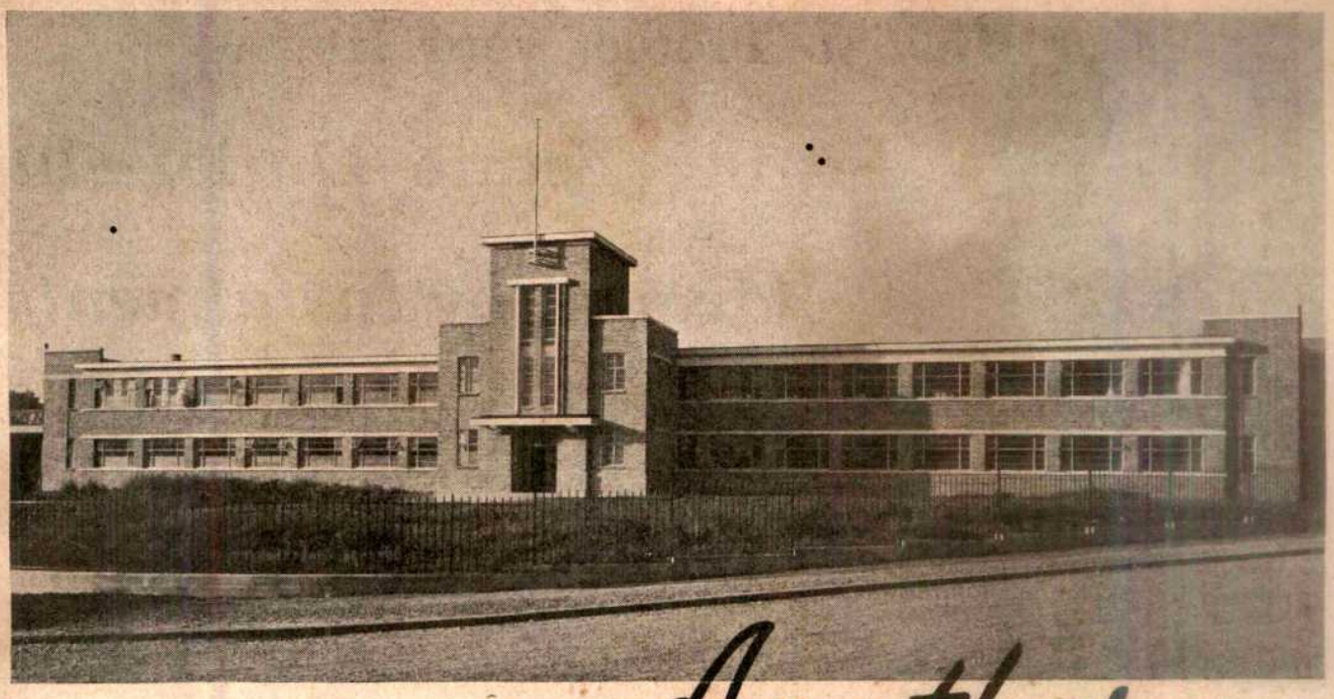
There may, of course, be certain reasons why you need some specialized type of flooring. If that is the case you would obviously keep a check on the condition of your floors. But in most instances, especially where a firm occupies an old building, there is no periodic check. That is a mistake. Just as you check up machines, lighting efficiency, sales systems, labour organization and so on, so should the condition of floors be checked.

Executives Are Guided In A.R.P. Plans By An Expert

TO realize the significance of A.R.P. work in factory and office it is necessary to understand the country-wide problems involved. Unless this is so there is danger that firms will make grave mistakes in building up A.R.P. organization. In particular it should be the job of all top executives to look at the problem from a wider viewpoint than that which directly concerns the wellbeing of their companies and staffs.

For that reason executives should study other than official publications on the subject. A good start could be made by reading *A.R.P.*, by J. B. S. Haldane, F.R.S. (Victor Gollancz, Ltd., 7s. 6d.). Mr. Haldane needs no introduction as a scientist and as an authority on A.R.P.

Although the book is written "for the ordinary citizen," there is no doubt it is a work of value to business men. In it there is plenty of criticism of the Government's A.R.P. schemes; but it is constructive criticism. The author gives a detailed scheme of complete protection, of what should be done to get workable A.R.P. organization. Much of what he said against the existing A.R.P. plans has been proved in the recent crisis, which shows that his criticisms are just.



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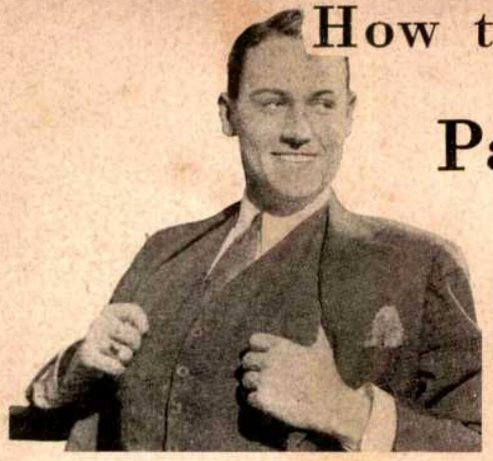


How to Protect your Heirs.

Paying Estate Duties—*In Advance, by Instalments*

By "BUSINESS" INSURANCE CONSULTANT

Too often the business man's family has to face a forced sale of some of the property to meet the demand of death duties levied on small as well as large estates. This increases the losses. As described here, the heirs can be completely relieved of this burden of duties as well as of all fear of a forced sale.

●

Every business man's affairs are different, and while it is easy to make provision as outlined here, all the circumstances have to be considered carefully by an expert if the *best* individual policy is to be drawn up. The charges of different insurance companies vary greatly for this kind of cover. It is the work of the independent expert, therefore, to pick the most profitable market.

●

If any reader of BUSINESS would like information on his own case, please send details of the amount of Estate Duty for which you think you are liable, together with exact date of birth, and expert advice will be sent you—without cost or obligation. Address your inquiry to BUSINESS Insurance Consultant, c/o The Editor, Whitefriars House, Tallis St., E.C.4.

●

NOBODY really likes to anticipate the inevitable time when he must pass on from this world. But to the business man who, by his industry, gets together a certain amount of "property," the point is highly important.

To plagiarize a famous film title: *You Can't Take It With You.* You can, however, protect your heirs and successors from the losses and worry which heavy taxation would otherwise cause them.

No matter if the "estate" you will leave consists only of a hundred or two in cash and, say, a small shop, estate duty will take its claim. So do not be under the delusion that only the big estate is liable.

Estate duty is levied on the capital value of *all* property, real and personal, which passes at death. In addition, legacy and succession duties have to be paid.

The affairs of most business men, however, are more or less "tied up," so there is always the danger that, in the event of sudden emergency, a forced sale of the estate might have to be made by the heirs in order to meet the duties.

In such event the losses are generally catastrophic.

Estate duty forms a *First Charge*, and must be paid before legal possession of the estate can be obtained. And the State charges interest at 3 per cent from the date of death while the estate duty remains unpaid.

How to Make Your Provisions Now

The best and most economical way of meeting this heavy taxation burden is by Life Assurance.

This method spreads the cost over a period of years by means of a nominal annual payment. It would take many years of saving to accumulate the large amount required, and even then, in case of early death, the full amount would not be forthcoming. Life Assurance, however, provides the necessary amount at any time it may be required. It is really the logical way of making provision—the happening of the same event causes both policy moneys and death duties to become payable and they automatically cancel one another out. Absence of Assurance almost invariably means a forced sale, which in turn means a loss.

The policies effected to pay off estate duties should be ear-marked specially for that particular purpose and no other. This avoids any confusion with other policies which may be taken out for such purposes as *protection for dependants, pension for old age, or educational benefit for children.*

Payment Can be Direct to Inland Revenue

This is quite easy to arrange. A policy can contain a clause whereby the insurance company will pay direct to the revenue authorities the full policy values, or as much as may be necessary for payment of the duties, without waiting for probate or letters of administration and without in any way affecting the rights of the policyholder during life.

Here is an Important Point: Aggregation

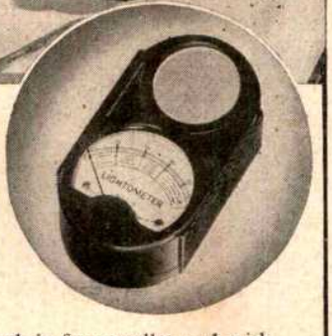
In the case of large estates, to effect a life policy in the normal way may so increase the total value of the estate as to make it liable to a much higher rate of duty. But this may be avoided by effecting the policy under the Married Women's Property Act, 1882.

A policy taken out in this way must never have belonged to the deceased, neither must he have had any interest in it. It must have been all the time for the absolute benefit of a wife and/or children. By this means estate

This is The Present Scale of Estate Duties

Estate exceeding:	Estate Duty.	Estate exceeding:	Estate Duty.	Estate exceeding:	Estate Duty.
£ 100.	1 %	£ 35,000.	12 %	£ 200,000.	26%
500.	2	40,000.	13	250,000.	28
1,000.	3	45,000.	14	300,000.	30.
5,000.	4	50,000.	15	400,000.	32
10,000.	5	55,000.	16	500,000.	34
12,500.	6	65,000.	17	600,000.	36
15,000.	7	75,000.	18	800,000.	38
18,000.	8	85,000.	19	1,000,000.	40
21,000.	9	100,000.	20	1,250,000.	42
25,000.	10	120,000.	22	1,500,000.	45
30,000.	11	150,000.	24	2,000,000.	50

You can't afford to guess . . . you must measure Light . . .



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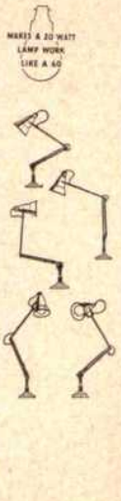

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NOTE HOW THE ANGLES ALTER

Designed for correct lighting—comfort in office, factory, studio, home, etc. No fiddling nuts to tighten or catch fingers. Move it sideways, slantwise, upside down —all the time it throws a powerful beam of light—making a 25-watt bulb work like a 60—this means a big saving in light bills!

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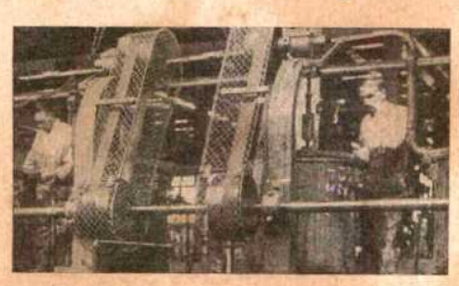
----SEND THIS COUPON TO-DAY----

Please send particulars of Anglepoise Lamps
HERBERT TERRY & SONS LTD., REDDITCH

NAME .....

ADDRESS ..... *Business*

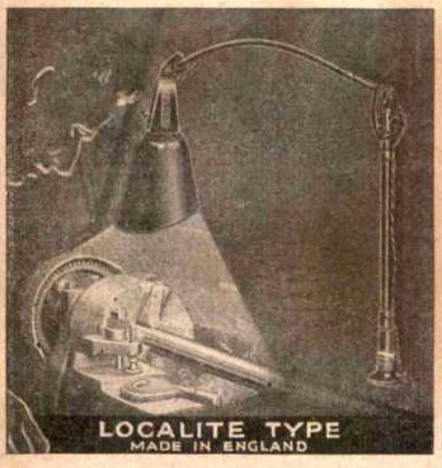
How PLANNED *Machinery—Guarding will benefit* YOU



The perplexing problem of machinery-guarding can now be solved not only to give 100% satisfaction of Home Office requirements but also *economically*.
Realizing that it is desirable while complying with Factory Act specifications, to provide machinery-guarding that will not encroach on valuable floor-space, Procter Bros. Ltd. have evolved a system combining both these essential factors.
Backed by years and years of practical experience in making machinery-safeguarding equipment to meet the peculiar needs of hundreds of industries, we are able to plan installations for any plant, at a minimum cost. Whether it is necessary to wireguard a simple electric motor, or to fence a number of prime-movers, it will pay you to let our expert advise you on your problems and point out where you can obviate unnecessary expense or waste.

Procter Bros. (WIREWORKS) *Ltd.*
CALL LANE · LEEDS

BY THIS METHOD YOU CAN COMPLY WITH THE REQUIREMENTS OF THE FACTORY ACT, ALSO A.R.P. LIGHTING PRECAUTIONS, AND AT THE SAME TIME SAVE ON YOUR LIGHTING BILL . . .



20/- each

The "Localite" Arm directs concentrated light on the job in hand from any desired angle. No light is wasted, so that maximum kilowatt demand and current consumption are definitely lowered

WALTER GRAFTON & SON LTD.
DEPT. 13b. LONDON, S.E.9
Phone : Eltham 2121 (5 lines)

GOING TO TURN OVER NEW LEAVES IN 1939?

Or are you going to keep on turning over "dead" leaves in cumbersome old-fashioned bound books and ledgers?

ROBIN Looseleaf Books—the up-to-date, economical, extra-easy record keeping method—are saving time and trouble in scores of businesses. Would you like to try one on a week's approval?

SPECIAL OFFER

Robin book size 5" x 8", comprising looseleaf binder bound full maroon buckram, A—Z index, and 200 leaves (state whether feint, cash, or double ledger ruling required) .. 9/6

or bound full pigskin .. 13/-

J. W. RUDDOCK & SONS
Looseleaf Book Manufacturers
LINCOLN
and at 3 Old Jewry LONDON, E.C.2

duty is allowed to be charged only on the individual amounts at the graduated rate for that separate estate.

Take, for example, an estate of £100,000 liable to duty at 20 per cent. The policy for £20,000 required for the duty would, if added to the estate, give a total of £120,000 and the total would be then liable to duty at 22 per cent. The policy, however, could be arranged under the Married Women's Property Act, so that it would be considered as a separate estate liable to duty at only 8 per cent, whilst the main estate would remain unaffected and be liable as originally to 20 per cent duty.

Getting the State to Meet 14% of the Cost

According to present regulations a rebate of income tax up to one-half the standard rate, i.e., 2s. 9d. in the £, is allowed within certain limitations in respect of premiums payable on life assurance policies. This is almost 14 per cent. In effect, therefore, in the case of those who use life assurance to provide for the payment of their estate duties, the State contributes 14 per cent towards the cost of the duties.

Here is an example: A man aged 45 next birthday has considerable property consisting of land, buildings, and securities, and he knows that at his decease there will be estate duty to be paid of about £10,000. Two alternatives are open to him:

(1) He can leave his heirs to be faced with a forced sale and its attendant risk of a loss, quite apart from the inevitable shrinkage of the estate, or

(2) He can arrange a death duty policy of £10,000 for an annual premium of £270 (or say £23 1s. 6d. monthly by banker's order), off which he can claim income tax rebate at 2s. 9d. in the £, say £37—making the net annual cost £233.

The insurance company undertakes that, on his death, they will pay the full amount of £10,000 direct to the revenue authorities without waiting for any grant of probate.

The advantage of this protection must be obvious. It is easy to arrange by regular savings out of income and no forced sale or other difficulty can arise.

Leabank Chairs preserve the *natural* upright posture that is healthiest and therefore most efficient for workers of both sexes. Models include low-priced factory series.

LEABANK CHAIRS
MANY FACTORY AND OFFICE MODELS
Write for free list
LEABANK CHAIRS LTD.
13 Imperial Buildings,
56 Kingsway, London, W.C.2

New Low-Cost Axe For Fire Squads

TIME-HONOURED George "Never-tell-a-lie" Washington might have chopped down the cherry tree more quickly if he had had an "Arpax," a new patent safety fireman's axe designed for use by works and A.R.P. fire-fighting squads.

Here are some of the points which give the new axe an "edge" over the old types: (1) handle is insulated to withstand minimum shock of 20,000 volts; (2) axe can hack through steel bars ⅜ in. diameter without damage; (3) each axe is coated with a cellulose varnish of rust-resisting qualities; (4) handle and axe are unharmed by being cleansed in boiling water, which is good from A.R.P. decontamination viewpoint; (5) hand-hold made secure by "revolver"-grip feature; (6) steel core, or shaft, is forged in one solid piece with head and runs full length of handle with exception of ½ in. at bottom end, therefore handle cannot become loose and is unbreakable.

The axe, which is being marketed by a London company, has the approval of the Home Office and is low in cost.

Sound-Proof Partitions

(*Continued from page* 19)

of water running beneath the partition from one side to the other, these sectional partitions have rubber stripping under the floor channel, which provides a good water-tight base.

Four different types of partitions are manufactured. Most popular is type D—1½ with sound-insulated flush panels 1¾ in. thick and moulded posts and cornices. The type is suitable for a variety of purposes. Sections are carried in stock for immediate delivery. Glass or steel panels are optional and the partition is available either ceiling or cornice height.

Type K is full ceiling-height with completely concealed posts and 3 in. thick insulated panels. Type M has visible posts, presents a flush wall appearance, and has 3 in. thick insulated panels. Type R is an economically priced factory partition with panels and fillers of single thickness steel (no insulation) and is available either ceiling or cornice-height.

All partitions (except type R) have sound-insulated panels. This insulation is the result of careful study of office acoustic problems and is effective in absorbing and deadening noise.

Apart from dividing up floor space to form separate departments and private offices, the partitions can be put to many uses. They are used for construction of telephone boxes, hospital isolation cubicles, dressing cubicles, lavatories, commissionaires' and inquiry offices, etc. Being sectional, they may be taken apart and reconstructed upon a fresh site whenever alterations become necessary.

A book, "Art Metal Sectional Sound-insulated Partitions," is available, post free, from the manufacturers Art Metal Construction Company 201, Buckingham Palace Road, London, S.W.1. The book is illustrated and deals in detail with the different types of partitions.

An INITIAL ADVANTAGE
available to every Manufacturer

The unsettled conditions prevailing during recent years make it imperative that any new manufacturing enterprise should, at its inception, possess every advantage which forethought and shrewd planning can place at its command.

Factory location is a factor of primary importance.

Choose a site in Lancashire and secure an *initial advantage* which can only be derived from a progressive community. For the infinite diversity of trade and industry that has found the Lancashire territory convenient and profitable up to the present day is no bad guarantee that satisfaction will reward the enterprise of the future. Let recent facts speak for themselves!

* 1. Since 1931 more than 600 new industrial establishments and 200 factory extensions have been commenced.
* 2. Although fewer textile mills there are now 1,860 more non-textile factories.
* 3. Over 200 idle textile mills have been converted into factories for other products.
* 4. Employment for more than 25,000 workpeople is being provided by enterprises introduced by the Lancashire Industrial Development Council.

You are cordially invited to investigate the facts and facilities for yourself.

Inquiries for information and expert advice on available factory locations are welcomed and treated in strict confidence.

J. BENNETT STOREY, *General Manager*

LANCASHIRE
INDUSTRIAL DEVELOPMENT COUNCIL
Ship Canal House, King Street, Manchester, 2

Preliminary information obtainable through: THE TRAVEL AND INDUSTRIAL DEVELOPMENT ASSOCIATION OF GREAT BRITAIN AND IRELAND, 29 Cockspur Street, London, S.W.1. British Empire Building, Rockefeller Center, New York, and 28 Avenue des Champs Elysees, Paris.

VALOR FOR STEEL FURNITURE

Write for illustrated list No. 29/V105 to the VALOR CO. LTD., Birmingham: Bromford, Erdington. London, 120 Victoria Street, S.W.1

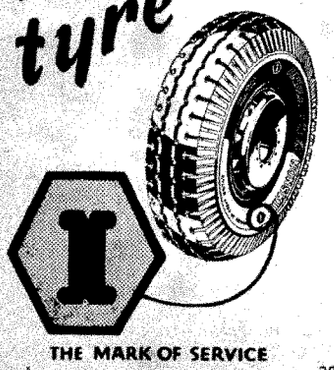
AN INFALLIBLE CHECK ON TIME WORKED
THE NATIONAL TIME CONTROL SYSTEM, ORDINARY RECORDING SYSTEMS, PORTABLE RECORDERS, TIME SAVERS, MASTER CONTROL SYSTEMS
NATIONAL TIME RECORDER Co., Ltd.
AQUINAS STREET, STAMFORD STREET, S.E.1

MILK MEAT or METALS

whatever the load

I can take it!

I am the new INDIA commercial vehicle tyre



THE MARK OF SERVICE

Langleys 2067

Your Lighting Must be Decided by the *Nature of Work to be Done*

(*Continued from page 24*)

80 per cent of the light that falls on it, while sea-green, which is a popular choice for office walls, reflects *less than 40 per cent.*

I have often visited factories where the walls are painted in two colours—the upper part white or cream and the lower in a darker colour, maybe green or blue.

In these instances much of the reflected light is lost. Light that would otherwise help to soften shadows and add to the illumination on any adjacent gangways is simply absorbed by the dark colour of the lower part of the walls. This is an undesirable feature because it should be remembered that a well-lighted floor will reveal any obstacles that may cause falls and injuries to passers-by.

In addition to contributing to the total illumination available, a white wall will reduce glare by contrast.

To realize this it is only necessary to hold a lighted match against a dark surface and then, for comparison, against a light surface. So long as the match is the only light in the room it will cause more *glare* and much less *illumination* when in front of the dark surface and less glare and more illumination when it is held against the light surface, although the light output of the match is unaltered.

These Light Losses Can be Reduced

Again, windows and glass partitions, fanlights and laylights, while helping greatly in the provision of natural light, are a source of big loss at night unless great care is taken.

Because light which falls on a glass surface is transmitted and not reflected, windows, etc., are considered as black walls when calculating a lighting layout.

Many offices and works would benefit in hard cash if they were to fit light-coloured roller blinds to their windows and so stop the transmission of light from inside to outside. The most suitable blinds are those of a colour having a high reflection value. A cream-coloured blind will reflect many more times the amount of light than a green blind will.

No Bias in The Selection of Fittings

When these and other similar considerations have been reviewed the lighting engineer can decide on the positioning of the electrical points and the types of fittings to be used.

It should be remembered that an independent lighting organization has the entire market from which to choose fittings. It is not restricted to any one manufacturer's products.

This freedom of choice is greatly to the advantage of the firm being serviced.

An actual example of this is shown in the accompanying photographs. Fig. 1 is of a director's office in which was installed a highly efficient fitting, *but of the wrong type for the room.* The manufacturer's representative who sold this fitting selected the best one his firm produced, but the efficiency of his selection was misapplied.

Fig. 2 shows the same room and the result of a proper application of light. Both pictures are time exposures. There is no "touching up," so the results are truly comparable. Notice the harsh shadow under the telephone in Fig. 1 and how in Fig. 2 this shadow has been eliminated.

FREE ADVICE

on your Office and/or Factory Lighting

A Check-up on your present lighting may show where money-saving improvements could be made . . .

***"BUSINESS" LIGHTING BUREAU*[1]**

exists to give readers this free service. At your request an independent, qualified lighting surveyor[2] will call, examine your entire lighting system and submit his recommendations :

Alternatively, if you write, giving all the relevant details you can, the Bureau will give you free advice by correspondence

1. The Bureau has no tie-up with manufacturers of electrical appliances ; its advice is therefore unbiased. Direct correspondence to 'BUSINESS' Lighting Bureau, c/o The Editor, Whitefriars House, Tallis St., E.C.4.
2. While this Service is free, cost of travelling must necessarily be charged where the surveyor travels beyond 10 miles of Charing Cross.

THE

HOME MARKETS

A Survey and Index of Regional Business Activity

DECEMBER, 1938

MANAGING DIRECTOR'S NOTE

NEW YEAR RESOLUTION—No. 1

TO INVESTIGATE for myself — without obligation — the possibilities of Masseeley Advertising in my own business . . . .

MEM. 1 — Verify that it is really true I shall save from 15 to 50 per cent on the cost of all Dealer Aids, 500 per cent in time—and get a far better job.

MEM. 2 — Is it really true that with Masseeley the economic minimum is *ONE*, so that I can cut out all excess production?

MEM. 3 — What is this new Masseeley Panel Process?

To put this resolution in practice without delay, call, write or phone

MASSON SEELEY & CO LTD

MASSEELEY BUILDING, HOWICK PLACE, S.W.1

Telephone : VICtoria 2151 (4 lines)

THE TREND OF TRADE

Facts Prove a *Gradual Revival* is Beginning

By Cecil Chisholm, M.A.

NOVEMBER has answered most of the questions raised by October, most of them to the benefit of British business. The government order is "Business as usual." There is to be no mobilization of industry for the arms speed-up; no Ministry of Supply is to hamper anybody with priority orders. The Anglo-American treaty is at last signed. Even more important, the American revival has finally materialized. The financial genius of M. Reynaud promises to avoid that French debacle which would have been a disaster to Europe.

Surely this is the best batch of news we have enjoyed this year. But less reassuring is the new German strategy of loan and barter which is emerging in every capital visited by the zestful salesman, Herr Funk.

There remains the question of next year's income tax. The government's vague generalizations to not preclude an increase still leaves us completely in the air on that subject. On Monday last *The Times* made its own plea for a clear Government lead on the subject. Perhaps the voice of *The Times* will penetrate to Downing Street. For the sake of business one hopes so.

Is Big Kick Coming To Big Business?

THE government's refusal to act drastically on the supply of arms pleases many business men. But is this complaisance justified? The leaders of the F.B.I. have got what they wanted: a committee of business men will advise the government. This is to the good; but it means, incidentally, that in any failure of production in any new crisis, business, and big business in particular, may be the scapegoat. Further, the failure to institute a Ministry of Supply, in the face of the advice of the experts, has left a feeling of anxiety and tension in the public mind. This is reflected not merely in Throgmorton Street and in popular newspapers but in order books.

This Air Fleet May Never Fly

THE Premier may have acted wisely in refusing a Ministry of Supply. Conceivably 6,000 first-line 'planes and a fleet of 35,000 fighting machines can be produced in two or three years without unified control, but all the evidence of the last war is against it. *The six-months' inconvenience caused by bringing an efficient supply control into operation may prove an expensive economy.* Four ministries will be convened, instead of one; the expert job, both of co-ordinating the work and of installing mass-production control, will be done largely by civil servants. But it really requires trained business administrators, as the Ministry of Munitions proved. One small part-time committee may provide a useful excuse for the Ministries, because it will hardly organize the biggest mass-production job ever attempted in this country.

Uncle Sam Cuts Down Several Percentages

WITH the Anglo-American treaty we are on safer ground. It is true that we import from more than twice what we export to, U.S.A. It is true also that in the past quarter Eire bought as much from us as the United States. *The point is that no market is capable of as great expansion as is the American.* In 1936 we exported £49,000,000 of goods to that country, £17,000,000 duty free. The new agreement gives a reduction of 40 per cent or more on £3,400,000 of these goods, of 30 to 40 per cent on £3,600,000 worth, of 20 to 30 per cent on £2,600,000 worth and of under 20 per cent on only £1,400,000. These are genuine concessions.

No less important is the maintenance of the whisky duty at the reduced rate of 50 per cent, for whisky is our largest export to America, 1936 sales reaching £5,000,000.

Thanks To Youngsters, Mother's 'Doing Well'

THE reduction of duties on many classes of cotton goods to 30 per cent will, at least, help Lancashire a little. The big reductions on woollen goods will definitely do good to Yorkshire. Small industries up and down the country will benefit from the many other reductions and stabilizations. We have to thank both Canada and Australia for assisting so courageously in the loosening of trade barriers.

The treaty comes at a happy moment, for at last the American revival is on a solid basis. Thanks to the Federal Housing Act which increased mortgages on new houses from 80 per cent to 90 per cent, to the Tax Act which rescinded the prohibitive deadly tax on reserves, to the spending programme which is getting into swing, American business has been improving more or less steadily now for five months. At last the private builder is at work again; motor production is again reaching 100,000 cars per week; retail sales are up. In fact, American industry is on its feet again.

All Work, No Profit, Is No Good To Sam

THE only fly in the ointment is the lack of profits; profitless prosperity again becoming a catchword. Al-

Reading the Indices

For these new indices the average business activity of each area during 1933 is taken as the base (=100). The indices are given by months.

Note: the exceptionally steep rise in the index for Midlands and Wales is due to unusually heavy building activity throughout the area, especially with regard to construction under the shadow factories scheme. This high regional figure naturally pushes up the level of the index for the U.K.

NORTHCLIFFE NEWSPAPERS THE 10 TEST TOWNS

TEST YOUR ADVERTISING ECONOMICALLY
IN A *PROVED* TEST MEDIUM

No. 11. EVENING SENTINEL STOKE-ON-TRENT • 1938 MARKETING BOOKLET FREE ON APPLICATION •

JOHN COOPE • Advertisement Director • NORTHCLIFFE NEWSPAPERS GROUP LIMITED, Carmelite House, London, E.C.4. Phone: Central 6000

though so many wheels are going round, they are earning poor profits for stock owners. Shorter hours, higher wages, close buying by the public, are all holding profits down. But there is a new threat to profits. As more industries adopt mass production they are becoming susceptible to mass-production economies. They only make profits when they are working to capacity—in other words during a boom.

It is difficult to see how all these influences can prevent a low profit level in the United States until a boom breaks. Low profits will not, however, seriously affect America's foreign buying. As the car, tyre, electrical, engineering and hardware industries get going, their purchases from all raw material countries must rise. This will make more sales for British textiles, clothing and luxuries of every type all over the Empire and the East.

'Vive le Daladier!'— But For How Long?

ALMOST overnight France has been saved. A month ago M. Daladier seemed to be planless and purposeless. Now, after five days of intensive study, M. Reynaud has produced the most brilliant analysis of a state's finances ever penned. He proposes to save France from bankruptcy by loosening both prices and credit. At the same time the doctrinaire application of the 40-hour week of five days is to be modified by allowing overtime and various spreads of hours. It is inconceivable that the French Socialist party should wreck this eleventh-hour solution of France's tragic problem.

But a 2 per cent tax on all wages, incomes, and remunerations, without deductions, is a dragonian degree for Frenchmen, despite the relatively recent 30 per cent increase in income tax. It is to be hoped that at the last moment French common sense will allow M. Reynaud to put his plan into operation to save the franc, to revitalize French industry. A prosperous France is essential to a prosperous Europe.

Germany's 'Grab-All' Campaign Gets Going

WHILE new openings for exports are offered to us in America, other channels have been closed in South-Eastern Europe. The German offer to supply the whole import needs of Bulgaria for a period of 12 years and to finance the harvest in each of these years is Napoleonic in conception. It proves that, as I suggested last month, Germany means to have every crumb of the cakes available to her in South-Eastern Europe.

Whether Bulgaria will accept the offer, with its suggestion of prices fixed for 12 years, remains to be seen. In any case, it seems likely that she will go far to meet it. However, it should be remembered that South-Eastern Europe was Germany's particular foreign trade empire before the war. She has always done a great deal of her ex-allies' business.

It remains to be seen whether we shall adopt the same techniques. Certainly more tariffs will not meet the case.

Here's One Way To 'Talk Turkey' Now

THE loan of £16,000,000 to Turkey and our big purchase of wheat from Rumania suggests that unilateral pacts are not ruled out of our foreign trading programme. Meanwhile, the ever astute Turk profits from this new competition by adding a £12,000,000 German loan to a £16,000,000 British loan, while pocketing impressive political concessions from France.

We may expect a tremendous struggle for South-Eastern, Balkan, and perhaps eventually Near Eastern business under the new totalitarian technique. This new contest, if it succeeds in increasing the purchasing power of these particular areas, will benefit everybody.

Having assessed the power of the new forces set to work during the past few weeks, we can turn to the home position. A month ago it was impossible to say how long we should continue in the trough of the present depression. For almost three months business had remained at a dead level, apart from the crisis flurry. Now there are signs that a slow improvement has set in. That business should improve within 12 months of the business cycle turning downward is almost unexampled. Ob-

Problems...

and how to solve them

THE boys were chipping Columbus about his proposed West to East trip, telling him the world was flat. So Columbus said: "Now listen, boys, you're all so ready to say the trip's impossible. I'll bet a round of drinks not one of you can stand this little egg on end on this table so it doesn't roll over." And sure enough, not one of the lads could do it. So Columbus just broke the shell slightly at the end to form a flat base on which the egg could stand perfectly steadily. . . .

* * *

Which goes to show how simple any problem is—when you know how to solve it. And those who know how to solve marketing problems are needed more than ever in the world of commerce to-day. Only by years of practical experience can such knowledge be acquired, and so the wise advertiser always consults the marketing experts before launching his campaign.

If you have a marketing problem to solve consult the marketing experts

See BATES about it

ALFRED BATES & SON, LTD. 130 FLEET ST., LONDON, E.C.4

TEL: CENT. 8831 - 7 lines

Advertising Service Agents for over 30 years

Liverpool · Glasgow · Newcastle · Bradford · Edinburgh

viously rearmament is responsible for this unexpected relief.

Trade Wind Is Fair: 'Sales' Should Go Up

THE evidence of a slight improvement is everywhere. October is always a ticklish month with employment, yet there was no deterioration this time. Export trade showed a definite improvement. More important still, there are signs that a re-stocking movement has commenced, even textile sales being slightly better.

Although the October figures for shop sales are not yet available, there is every evidence that what was lost in the first half of the month was regained in the second half. Even in the shipping trade the slight rise in tramp freights in September is a sign of better things. Given a continuance of American revival, freights will rise again as certainly as the sales of cotton piece goods.

Best news of all comes from the building field. After a 25 per cent drop in September building plans have jumped back, almost to last year's figure.

U.S. Upturn will Boost Our Trade

IT is true that all business is on a lower level than at a year ago. The shipbuilding slump continues. The North-East coast and the West of Scotland shipbuilding centres are only saved from acute misery by naval orders; but, again, an American revival would quickly begin to stiffen freights and to encourage building.

In other words, the fact that we are in the trough of depression will not prevent us getting out of it, if the essential underlying impulses to better business are there. We have many of them to hand—cheap money, empty shelves in many warehouses and intensive building activity, for example.

The one danger signal is high costs. Shipbuilding has slumped, not because there are no orders possible (particularly in the passenger trade) but because shipbuilding costs are too high. The same thing applies to the whole range of heavy exports.

British Steel Prices Must Come Down A Lot

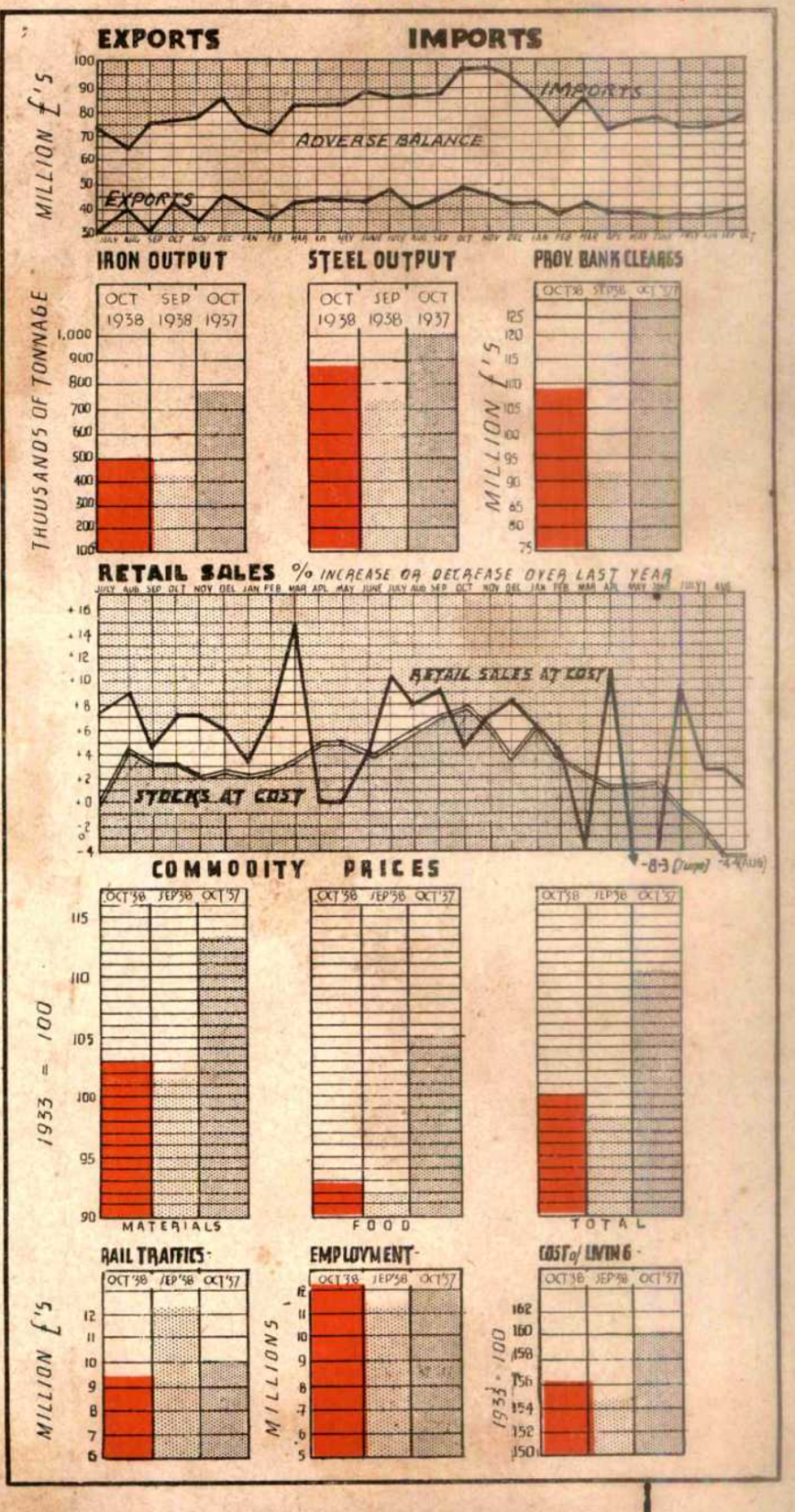
PARTLY our rigid wage structure is to blame, partly our effective monopolies in some of the basic industries. British steel is still 25 per cent above the average of industrial prices; British steel prices are among the highest in the world. Expensive raw materials offer a reasonable excuse for high British prices to date, but they offer no excuse for continued high prices in 1939.

Confidence is still the essential need of the situation. Business men are anxious about income tax, anxious about the place of rearmaments, anxious about the political situation. I repeat that the government can help best by stating two decisions clearly—first by announcing its policy on income tax; secondly by a brief, rapid and efficient publicity campaign to reassure the consumer on the armament and the political situations.

For the rest the reduction of costs in every department is the first necessity, and a cautious expansion of sales wherever possible, the second.

GUIDING FACTORS IN THE TREND—

All comparisons are with similar month in last and previous month in this year

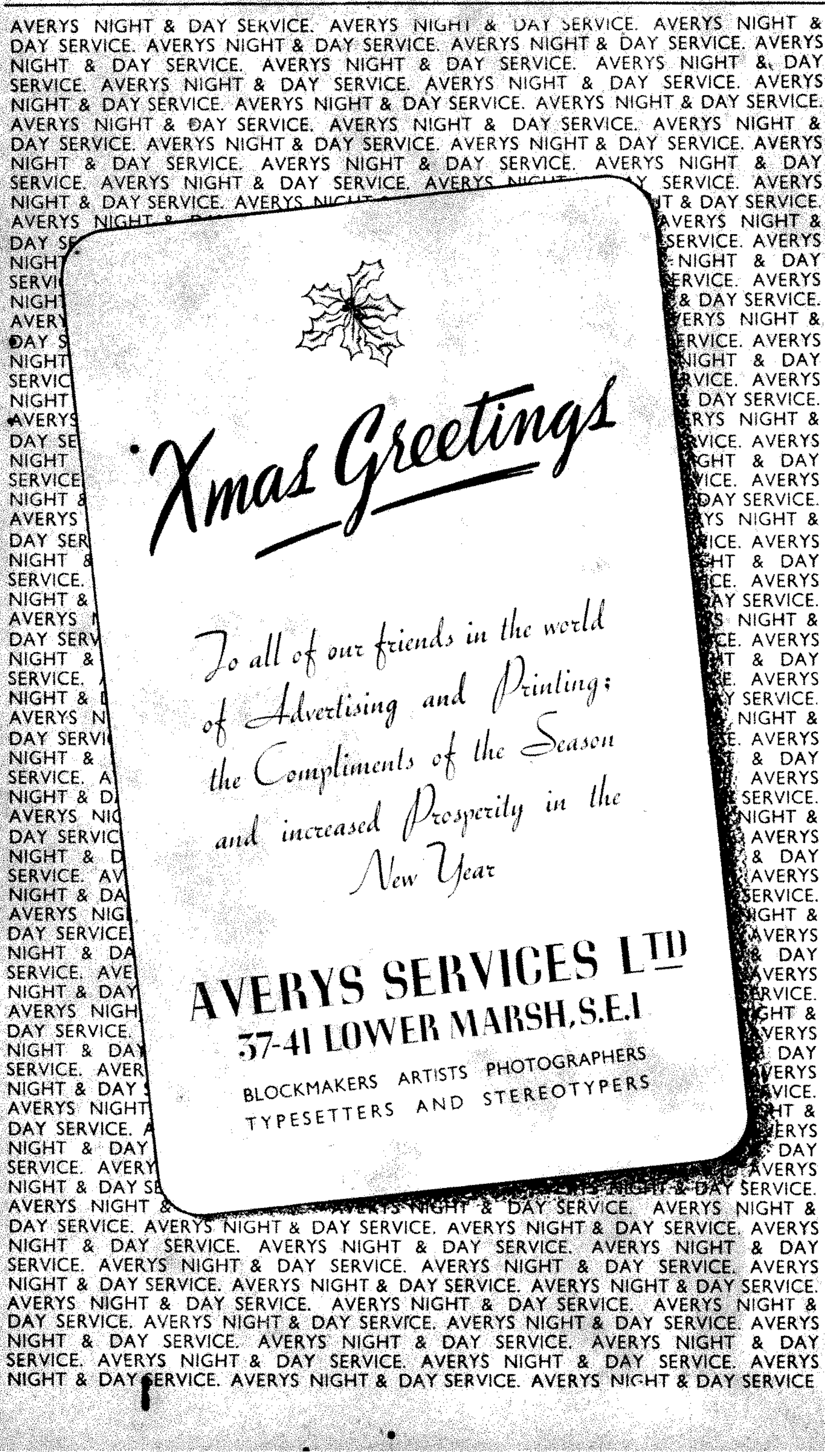


Here's *NEWS* of Active Home Markets

About 10,000,000 young trees are to be planted by North-Eastern Division of the Forestry Commission in 5,000 acres of its area—Nearly 300,000 tons of shipping is under construction on the Tyne. North-East shipyards are to benefit from £3,000,000 to be spent by Cuban owners on construction of new ships—Tube works at Jarrow-on-Tyne are to be extended—In past year Tees-side development includes opening of four new factories and extensions to 18 others.

Birmingham's Industries continue to expand. Higgs Motors, Ltd., Witton, for seventh successive year, has extended production space; during this period the firm has increased fourfold, number of employees has trebled. Further large-scale extensions are being carried out by Reynolds Tube Co., Ltd., Tyseley; new extensions will include 5,600-ton extrusion press, the world's largest of its type. Costing over £34,000, a new warehouse has been built at Birmingham by Grand Union Canal Co.

Juvenile Wear production has started at the new factory built by Tailored Coats, Ltd., Leicester. Another firm in same city, J. H. Clarke & Co., boot and shoe manufacturers, have just completed a three-story extension giving work to 50 people—Two Sheffield firms, co-operating, have constructed a trailer of entirely new design for conveyance of loads up to 50 tons—Sir Robert Hadfield Metallurgical Laboratories, costing £34,000, have been opened at Sheffield University.



Some 6,000 Workers will eventually be employed at the new Ebbw Vale (Monmouth) steelworks of Richard Thomas & Co. Production has started—Over 600 people are now at work in factories on the Government-subsidized estate at Treforest, near Cardiff; 23 factories are in production, a further 20 are under construction. About £800,000 has been allocated for full development of the estate which, when completed, will provide work for some thousands.

Trafford Park, Manchester, continues to grow. Latest developments include: factory and land have been taken by Knowsley Cast Metal Co., Ltd.; Turner & Newall, Ltd., asbestos manufacturers, have extended their premises; Manchester Oil Refinery, Ltd., have completed a refinery on the banks of Ship Canal; four other firms on the estate have taken over additional premises and two have taken new plots of land for extensions—Lancashire engineer, F. Carter, Firs Ave., Ashton, nr. Manchester, has patented a preselector motor-cycle gear-change which he has invented; claims it can be adapted to any machine with hand change; little modification of existing gear-box needed; extra parts can be manufactured for a few shillings; idea is foolproof, makes impossible to miss or crash gears.

About £190,000 is to be spent on new transport vehicles by the Birkenhead Corporation—Other northern cities planning big renewals and extensions of transport equipment include Liverpool and Manchester; the former is spending over £40,000, the latter over £42,000—Chesterfield is to build over 600 new houses at Stonebroom; work to start at once—About £30,000 is to be spent at York for bridge and street construction—Chester is spending over £8,000 on bridge widening.

£200,000 Knockendon Reservoir is now being built; will assure work for 300 men for three years—Glasgow Corporation may take over the Empire Exhibition and reopen it as a Scottish Industries' Fair next year—New Dee bridge is to be built at cost of £150,000; foundation-stone has already been laid—Wick's new harbour bridge, costing £21,000, is now open—Plans are proposed for extending the work of the Scottish Economic Committee to embrace all the distressed industrial areas of Scotland.

Bristol's New Eastern Road will cost £200,000; a new bridge in Whitehall Road will cost £75,000—City is to pay £70,000 to Somerset C.C. for areas absorbed in building 26,000 houses in past few years—At cost of £106,384 Central Electricity Board is to install extra boiler at Portishead generating station—During past six months imports and exports handled by Port of Bristol increased by 67,888 tons over corresponding period 1937—Ray Engineering Co., Ltd., have perfected process by which ordinary white bakelite can be made to send out strong blue glow in the dark. Invention will be used for electric-light fittings and so on. Will also be useful in A.R.P. work for wardens' badges, door names and numbers, etc.

Do You Know That Travellers Should Be *Watching Bedford?*

Purchasing Power is always fluctuating. The sales executive's job is to be fully informed of such changes.

The article below, a brief review of *The Marketing Survey of the United Kingdom* (3rd. edition), shows that vital up-to-date facts and figures are available in detail.

BEDFORD is the most prosperous town in Great Britain to-day. It has ousted both Bournemouth and Oxford from pride of place. Both of these towns have been at the top of the list for two years past. Here are the towns which now have the highest purchasing power:

		1938	1937
1.	Bedford	165.0	163.5
2.	Cambridge	159.5	158.4
3.	Bournemouth ..	159.2	158.8
4.	Southport	158.8	158.2
5.	Worthing	157.4	157.3
6.	Southend-on-Sea ..	153.9	154.0

The purchasing power in these towns is far above the average for the country. This is 125.3 per cent for 1938, but in 1937 it was 126.0. In other words there has apparently been a general decrease of .7 per cent in the purchasing power throughout the country.

On the other hand the National Income has held up. Mr. Colin Clark proves that, even allowing for taxation and investments, it was as high in 1938 as in 1937, viz., £570,000,000, but in 1939 Mr. Clark expects a small fall. His impressive analysis for the national income figures (done in two pages) will give every sales director food for thought.

So will a survey of the effect of increased armaments on purchasing power up and down the country. A most illuminating survey of the industries, towns, and even firms, that will reap benefit from the £100,000,000 increase in arms expenditure this year, is given by Mr. Oliver W. Roskill.

As expected, the expansion of industry was not so great during 1937 as it was in 1936. Almost the same number of factories were opened, but they employed about 10,000 fewer.

On the other hand the "Little Man" is getting back into industry again. Many of the 541 new plants employ a score or so of workers: this is particularly true of some of the new industrial estates. More factories were opened in the Midlands, North-west and North-east areas and in Wales than in 1936: but there was a decline in factory-building for Greater London.

The new edition of the *Marketing Survey*,* from which all these facts have been taken, gives many lists of new factories in all parts of the country along with the type of products manufactured, and in many cases the number of workers. But the most fascinating section of this big, black volume is the detailed study of every city, town, and rural market in the Kingdom.

Another new feature is the first of a series of surveys of industrial markets. A very complete picture of the manufacturing wholesale and retail units of both the motor and food industries is presented in this issue. In five years the editor expects to cover all the chief industrial markets in this country.

At the modest price of fifty shillings this is probably the cheapest research job ever presented to British business men.

**The Marketing Survey of The United Kingdom*, 3rd edition, December 1938. 50s. net. (Business Publications Ltd.)

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Keeping Production Costs Down

(*Continued from page* 13)

utility) of capital which must perforce be charged against the new article to be produced.

By this I mean that the ultimate cost of the munitions produced must include the fixed costs entailed by the maintenance of typewriter plant (since the diversion to munitions may not last long), the variable costs which are incurred by the installation of new machinery plus of course the average of profits made in previous years, on the scale of production of which the plant is capable.

The usual factory production system is generally made up of an array of forms, figures, compilations and statistical statements which have to be compared, analysed and memorized before consummation. In a series of articles on Statistics published last year in BUSINESS*, I devised a set of charts which could be readily adapted to control production. Now, I reproduce a Purchasing Form which summarizes graphically:

A. Type of material.
B. Estimated amount to be used during month.
C. Quantity on hand each month.
D. Purchases during month.

The sub-divisions provide for a quick control and study of the entire purchasing budget.

The chart which accompanies this article is a True Control Chart. The word "true" being put there deliberately since on this chart I have allowed for the monthly variations. The width of the space for each month is determined by a study of the past five years' average production. The poor month is represented by a narrow space and the good month by a wide one. This method of "weighting" the chart permits the drawing of a "straight" line from zero to the budgeted figure for the year.

This line intersets each vertical monthly line at a point which is equal to the budget from the beginning of the year to the end of the month. Thus we have a graph which allows easy determination of expectancy based on two factors: the normal seasonal variation and the percentage of change.

In every large scale organization where production has to be planned carefully the production-control department should be divided into six divisions, each with a supervisor who is made responsible to the production executive:

1. The Production-Control Supervisor is responsible for carrying out the methods devised, keeping sections up to date, holding conferences with sectional supervisors and advising production executive.

2. Materials' Supervisor is responsible for supplying proper information to workmen and getting tools and drawings ready, seeing that no material is removed until process is completed and final inspection is done, keeping track of material, replenishing raw commodities, periodical checking of requirements against stock on hand and responsibility of all stock rooms.

3. Products Supervisor is responsible for following up orders and scheduling deliveries, replacing soiled and defective materials, keeping track of time taken on operations and securing data on work, watching progress of orders and making proper bills of materials consumed.

4. Labour Supervisor is responsible for labour employed and control of time-keeping, checking job against clock times, checking accuracy of production and looking over idle-time reports and finally looking over rejection reports.

5. Efficiency Supervisor is responsible for the detailing of jobs to sectional foremen, planning their work, rearrangement of schedules in case of congestion or slackening, proper handling of time cards, allowance cards, inspection and rejection reports.

6. Records and Statistics Supervisor is responsible for the compilation of all records and data and sending proper reports to production executive, dramatizing statistics and presentation of same to officials.

Practical business men who have grown into their small or large organizations often do not realize that the conduct of all business undertakings is governed by certain theoretical economic laws which are the result of long practice; but always it must be fully appreciated that while economics provide a *background* they must not be accepted as the inviolable rule because in each concern peculiar conditions tend to divert or destroy certain given assumptions.

In all production planning, however, there are definite phases which either ruin or build a business, thus the knowledge of corollaries relating to "division of labour" is imperative.

How to analyse the changed cost of production as detailed above is an adjunct which must be thoroughly grasped and so must the methods capable of quick-action control via the routes of production-control (summarized in the preceding paragraphs) and graphics. The first is indispensable where decentralization of responsibility is needed in large scale production and the second as constitutes proper recording for the guidance of higher officials who devise the policies of the undertaking.

*Modern Methods for Controlling a Small Business, BUSINESS for March, 1937, page 11; April, 1937, page 12; May, 1937, page 11.

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